

THE NORTHWEST

Technocrat

APR. 63

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No. 211, Vol. XXVII



12247-3
TECHNOCRACY INC.
Seattle, Washington





Canadian - American Relations

THE OUTSTANDING accomplishment of the Kennedy Administration, since taking office, seems to be its unusual propensity for ruffling the feathers of other nations, friends and enemies alike. In its tactless and obscure 'policy,' the present Administration, to name a few instances, has jostled the British on the issue of joining the European Common Market and then carped at the French for vetoing British entry; it is responsible for initiating a ridiculous and abortive attempt to invade Cuba, and later threatened the Russians with World War III for duplicating in Cuba on a very small scale an arms deployment the U.S. has maintained on a massive scale close to Russian borders; and, it has recently attempted to bully the Canadians into accepting an obsolete nuclear weapons system, which action brought the downfall of a Canadian government.

The action of the U.S. State Department to try to force Canada to accept nuclear armament for the Bomarc weapons system, which at best would be effective against World War II aircraft types, seems to have a motive other than defense. U.S. law requires that nuclear weapons be under control of U.S. military personnel at all times. Was the object of the State Department action to enlarge its sphere of influence in Canada, politically, to implicate Canada directly in the U.S. nuclear arms policy? By stationing U.S. military missions in Canada to shepherd nuclear weapons, no matter how useless, this end would be accomplished.

This latest instance of blatant interference in the domestic affairs of Canadians is added to a long string of grievances against the U.S. over hydro-electric power development, fishing disputes, lumber and wood products export to the U.S., persistent downgrading of Canadian monetary exchange to favor U.S. dollars, and American business control of Canadian resources and business activity, not to mention the boorishness of American tourists.

The U.S. has somehow managed to alienate, in some degree, almost every nation in the world today by telling them what is and is not good for them, and by exacting a price of political support in return for a frequently senseless and stupid foreign aid policy. But, if there is any nation of people we can-

not afford to alienate, that nation is Canada. No two nations in the world today are more bound together in their destiny than are Canada and the United States. Above and beyond political differences and petty squabbles over business, Canadians and Americans have come to depend upon one another in their exchange of products, resources, power, transportation and communication. These two peoples need one another to survive in this Age of Technology.

Because the U.S. is today the most powerful nation on earth, no doubt the Canadians, as other peoples throughout the world, look to the U.S. for leadership in the dangerous air of hostility and suspicion that now exists. They want and need answers to their problems other than those being advanced by the armed camps on both sides of the Iron and Propaganda Curtains of the U.S. and U.S.S.R., however.

Technocracy, which is the only unifying force in North America today, points out to Canadian and North Americans alike that their mutual problems of survival will yield to collective effort and action for scientific social control, and in no other way. Technocracy would ask that Canadians not identify all Americans with the incompetence of American leadership, for those of us who understand Technocracy are prepared to welcome with the greatest enthusiasm, and on an equal basis, the participation of Canada with the U.S. in the upcoming North American Technate.

—Editorial Board, NWT



COVER PICTURE

The giant Bucyrus-Erie stripping shovel bites off roomfuls of rock and dirt with its 115 cubic yard dipper. It uncovers seams of coal at the Sinclair Mine of the Peabody Coal Co., St. Louis, which are deeply buried. (See story and picture on pages 20 and 21) Photo Courtesy of Bucyrus-Erie Co.

APRIL 1963

THE NORTHWEST Technocrat

VITALITY THROUGH UNITY

None of the social organizations of the past or present have been able to resolve the problem of unity and cohesion. The problem presents itself in three principal forms: (1) Unity between the administrators of the society and the people; (2) unity within the administration; and (3) safeguards against encroachment from without.

THE DISCERNING READER of history is amazed at the way fortunes rise and fall among groups of men in different places and at different times. Many times, powerful social organizations have been built up; they command large domains; they maintain great armies; they stabilize on a way of life; and they appear invincible to all opposition. Yet, seemingly out of nowhere, a dynamic little group arises, gains momentum, and the great empire is assaulted, conquered, and taken over or destroyed. What seemed fixed and viable for all time crumbled and was gone. The marvel of their demise is matched only by the incongruity of that which destroyed them.

In the 12th Century, on the forlorn steppes of Mongolia, where life was harsh, civilization rudimentary, and social organization anarchic, there arose within the lifetime of one man a social organization and force so powerful that it conquered nearly all of Asia and much of Europe and brought this vast domain under one rule. The cowherd, Temujin, living under perilous circumstances, organized a small fighting force in order to survive; and, over the years, this was expanded into a great army. The Golden Hordes of Genghis Khan (Temujin) established the largest and most compelling social organization the world had known to that time. These barbarians of the north penetrated the Great Wall of China and gained mastery over the great cities of China. They swept across Siberia and gained control over the regions around the Caspian and Black Seas. They rode down into Turkestan and smashed the powerful Mohammedan

empire of the Middle East. They challenged the Teutonic Knights of Germany and threatened the Power of Rome.

Similar conquests, most of them on a much lesser scale, are spotted all through history. In the Fourth Century B.C., Philip of Macedon, a minor king in the more rugged and less civilized part of Greece, built up a fighting force that was beyond challenge in southern Europe. His son, Alexander, enlarged this force and proceeded to conquer all of the world that was considered worth having at that time. In the Middle East, in the land of the Medes and the Persians, was a huge empire guarded by the largest army in the world. The army was defeated and the empire conquered by a relatively small Greek force far from home.

At the beginning of the Seventh Century, the Prophet Mohammed arose out of the deserts of Arabia with a new religion and a fanatical fighting army. The Swords of Islam terrorized and conquered most of the Middle East, all of North Africa, and most of Mediterranean Europe.

A century and a half ago, Napoleon gathered together the forces of a decadent and impoverished France and, challenging the greatest empires of that time, came close to consolidating all of Europe under his rule.

A small, outcast Bolshevik Party crept into power in a brokendown and impoverished Russia and within 25 years was able to build up a social organization that was second to none in the world of power politics.

Within our lifetime, we witnessed the rise, out

of the dregs of a defeated and bankrupt Germany, of a powerful wehrmacht under Adolph Hitler that threatened to overwhelm Western Civilization.

Just yesterday, historically speaking, a small band of political adventurers penetrated Cuba and within a few years overthrew the entrenched dictatorship of Batista which ruled the island with corruption and violence under the friendly auspices of the United States and the Vatican. Now, Cuba, under Fidel Castro, has the second strongest social organization and military force in the Western Hemisphere and is a thorn in the side of the great and powerful United States.

These organizations succeeded in their rise to power because of certain elements in their makeup which gave them extraordinary strength. First, they were unified in their organization; second, they were dynamic; and, third, they had an objective. Perhaps the unity was achieved through cruel discipline and fear of reprisal—it usually was—but that is beside the point. They had a central control, a dynamic objective (however ill-advised it

may have been), and exercised a ruthless suppression of all internal opposition.

In many instances, unity was obtained at a cost which was too great to sustain. The initial conquests often made enemies, which awaited only an opportunity to revenge their defeats. Genghis Khan resolved this hazard by exterminating his opposition; hence, the problem of guarding his borders was reduced to a minimum. But many others, such as Napoleon, were unable to do this and, eventually, the outside enemies overwhelmed them. The internal repressions usually alienated the sympathies of large elements of the contained population, and these had to be held in check by terroristic methods to prevent internal sabotage and revolt. The rise to power often depleted manpower and resources to a dangerous level. When these had to be replenished with alien conscripts and though tenuous alliances with foreign realms, the seeds of dissolution were sown. These factors helped to defeat the Greeks and to rot away the foundations of the Roman Empire.

Effects of Schism

However, nothing is so disastrous to an organization as a schism within its own structure. The end of the Roman Empire was in sight when it split into Eastern and Western parts. Greece lost its vitality in the wars between Athens and Sparta. The Christian church dissipated its dynamism in schismatic conflicts. First, there were the cruel contests for supremacy between the Aryan and Catholic factions. Later, after the Catholics won out, they split into the Eastern Orthodox and the Roman Catholic branches, and both of these degenerated for lack of internal dynamism. The Roman Catholics could not maintain unity and many dissenting groups split off. Some of these were exterminated; others gained strength, especially after the split between the Papacy and the Knights Templar on an economic issue and the Papacy resorted to extremely cruel techniques of extirpation. Eventually, the Protestant movement gained momentum and Christendom became fragmented, a state which still persists.

Britain once dominated the world and boasted of an empire on which the sun never set. But the British Empire was not unified; it was a menagerie of political fragments. The only unity was in the ruling oligarchy of Britian. It maintained its position of strength by a policy of systematically

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keeping the rest of the world divided up into conflicting factions. Two areas got out of hand, the United States and Russia. Britain did try to fragment the United States by aiding the Confederate cause during the Civil War. It tried to break up Russia and, failing this, it resorted to a policy of containment. When Germany became a strong nation, Britain sought to break its strength, as Britain had done in the case of Napoleon's France. This was accomplished at great cost in World War I, a cost from which Britain could not recover. Besides, the war left both the United States and Russia too strong to be held in check. Yet, Britain made one last desperate attempt to break Russia by helping to facilitate a war between Germany and Russia. The British Empire did not survive World War II; it fell apart rapidly. Britain ceased to be a great power.

Following World War I, the Bolsheviks of Russia unified a vast domain under a central monolithic control. In some ways, the consolidation was inept and overly cruel; but it was effective enough to defeat fascism in World War II. From the war, Russia gained in area and strength. It took under its suzerainty a variety of small neighboring nations, some of them former enemies. This was a tough meal to digest, particularly since most of this territory remained nominally sovereign and a coalition of Western nations, including the United States, did everything it could to create dissension and revolt. Yugoslavia and Albania did sever the ties of unification and considerably weakened the power of the East in eastern Europe. The failure in East Europe is the lack of a sovereign central control over the whole area, albeit there is a virtual control.

China Ranks Third

The communist successes in eastern Asia unified China and made it the third most powerful nation on earth. China's alliance with the Soviet Union created a combination whose potentials in the world of power politics were unlimited. But the control of the alliance was not unified; there remained two separate controls. Disagreements between these two controls threaten to disrupt the potentials of the East.

None of the social organizations of the past or present have been able to resolve the problem of unity and cohesion. The problem presents itself in three principal forms: (1) Unity between the administrators of the society and the people; (2)

unity within the administration; and (3) safeguards against encroachments from without.

The establishment of unity between the social administration and the people is the first essential. It has seldom been achieved through compatibility; for, all historical societies have been characterized by social classification of the people and economic differentials. This breeds envy, avarice, and contention. So, cohesion has generally been attempted through coercive means rather than through mutual cooperation. Obedience rather than zealous support has been the rule. Through laws and police power, the administrators have frightened the populace into obedience. Some regimes have been more tyrannical than others, but the basic principle remains the same. Obedience is also enforced by economic means. Under the Price System, people must have jobs and incomes (or their equivalent) to survive. The social administrators manipulate the economy in such a way that the great majority of the people are caught in an economic rat-race from which they cannot extricate themselves. This condition is made more binding and permanent by involving the citizens in debt. They are further strapped economically with burdensome taxation. If that is not enough to enforce obedience; the people are brain-washed with superstitions which, through promises of rewards and threats of torment from the spook world that are closely tied in with obedience to the social administrators, further deter transgression. But even in the most rigid of tyrannies, there arise enough dissenters and heretics to undermine the unity which is based on fear and repression. The last resort is the creation of an external bogey which threatens the people with a fate so evil and vicious that they will unite in the common defense. The terrible evil which now threatens the people of the United States is socialism. But socialism is not considered evil by all Americans; some even think it's a good idea. So, even that 'danger' does not unite us.

The problem of maintaining unity among the administrators is a very tricky business. There are always individuals and groups in any political setup that are greedy for position and power, and they are ever ready to challenge those who already possess position and power. The monolithic tyrannies safeguard themselves with periodic purges, in which the schemers and would-be usurpers are liquidated by death, imprisonment, or exile. So

long as the ones in power can claim the obedience of the people, they usually can survive; but, if the people turn against them, they are usually lost. The alternative to a monolithic tyranny is the presence in the society of a code of laws which are considered inviolate, while the administrators merely act as referees according to the law. However, divergence of opinion regarding the interpretation and application of the law permits much dissension and disunity.

U.S. Disunity

The United States is disunited in many ways, in spite of its name and its code of laws. The South nurses grievances against the North. The 'west' is disrespectful of the 'east' and there is strong rivalry between them. The rural areas are in dispute over many issues with the urban centers. The fifty 'sovereign states' are at odds with the federal government. There is an unrelenting tension between Labor and Management; between Democratic politicians and Republican politicians; between the 'white' race and the 'colored' races; between the rich and the poor; between the chiselers and the consumers; between minorities of all kinds and the 'majority.'

These conflicts are mostly of an economic nature, either directly or indirectly, the latter usually being in the form of traditions stemming from previous economic circumstances. The conflicts between Labor and Management are directly concerned with economics in the present tense. The conflict between the Negroes and the Whites in the South has traditional roots which go back to the period of slavery wherein the White man was the owner and master while the Negro was chattel property and an obligatory servant.

Such conflicts cannot be resolved through moralistic preaching or legislative enactments—unless the economic bases for them are also liquidated, in which case the preaching and the legislation are hardly necessary. But where are the answers to the economic problems to be found within the Price System? Certainly, they are beyond the scope of politicians, moralists, economists and sociologists.

The matter of resolving social conflicts and establishing a general unity is a problem for social technologists. But social technologists would not attempt to resolve them within the Price System. The substratum is too sticky and synthetic; the odds against positive accomplishment are too great. The social technologists would require a stable founda-

tion on which to build a viable and durable social order. So, first of all, they would call for a redesign of the social substratum; they would not talk in terms of reforming the individuals. They would begin with the area, the equipment, and the people which now exist.

This is in contrast to the approach of the philosophical moralist, whose favorite dream is somehow to dispose of the existing population and to start afresh with a new 'Adam and Eve.' From this new beginning, they would spawn a new population, presuming that, thereby, sin and corruption could be wiped out and social virtue and unity be made to prevail. Because of this weird concept of starting over from scratch, the devout moralists are not deeply concerned over the present prospects of thermonuclear annihilation; rather, they almost welcome it. For, they feel that there will be at least one pair of humans left to provide the beginning for a new population and make a 'better' world. Current literature (as well as ancient literature) is replete with stories of such 'rebirths.'

We might assume that the ultimate in social turmoil would develop in a truly anarchistic society, in which each individual would vie with all other humans on an individual basis for the right to survive and make a living. But such a circumstance is beyond comprehension as applied to mankind. We can conceive of human beings only as being in organized groups of one category or another—as family groups at the most primitive level, as great nations at a more advanced level. While in a truly anarchistic association, conflicts would be merely between individuals with destruction limited to individual annihilation, in a society of nations, conflicts can be organized on a much larger scale and destruction can be committed wholesale.

Tolerant Coexistence

With the development of atomic energy for destructive purposes, the age-old pattern of conflicts between groups must be abandoned in favor of tolerant coexistence. (The concept of world unity is much too impractical at this time to be given serious consideration. Circumstances around the world are too varied to permit a feasible program of unification.) The first stage would be the consolidation of the major parts of the world into functional units. Our own concern is with consolidation and unification of the North American Continent.

The North American Continent, including Cen-

tral America, the West Indies, and the northern tip of South America, is a functional unit. To achieve maximum unity and maximum benefits, this area would have to be united under one sovereign control. It could not be achieved with a mere federation or an association of the existing political entities.. They would all have to be brought together into one organization and be administered by a single, centralized control. Such divisive elements as nations, states, provinces, and counties would have to be obliterated as self-governing units. One would have only a single citizenship—Citizen of the Technate. Other divisive elements, such as political parties and corporate enterprises, would also be eliminated.

The structure of the Continental Control as outlined by Technocracy is the most functional and least corruptible that can be designed. There is no way in which factionalism can develop and no mechanism through which it can express itself. Being a functional control, not an authoritarian power, the social control must operate according to the functional requirements of the Area, not according to philosophical opinion.

The relationships between individuals and interest groups will be highly tranquil. There will be complete economic equality, hence there will be no stratification and divisionism on economic grounds. There will also be equality of opportunity, limited only by the biological characteristics of the individuals. For example, human beings will not be equal biologically in their capabilities; not everyone could qualify, let us say, for the function of a Sequence Director. On the other hand, no one would be penalized economically because of inferior functional ability. History reveals that people who are economically prosperous do not seek social change; revolt and dissension are spawned among those who have cause for grievance.

Another source of divisionism is that of minority interests which are not in harmony with the interests of the majority. Therefore, minorities which insist on operating as minorities, will be isolated into small pockets where their potential to do mischief will be limited and ineffectual. This applies to religious, cultural, philosophical, artistic, and 'health' cults, as well as to those who, on racial, intellectual, or cultural grounds, consider themselves to be 'God's Chosen People.'

There is no question that the abundance, security, and freedom from toil in the Technate, along with a wide variety of exciting opportunities for self expression, will provide adequate stimulus and

zest for life. Life in the Technate is not to be equated with a life of affluence under the Price System, where the chore of maintaining position and 'respectability' often is a contributing factor to boredom and neurosis. In the Technate, the occasion for 'impressing' people will be minimal, so one can relax and enjoy oneself.

As for the problem of minimizing external hazards to the social integrity of the Continental Area, reliance on armed defense is no longer an appropriate answer in this age of ICBM's and 'offensive' satellites. The alternative of negotiating a modus vivendi among the Continental Areas must be effectively applied if the future of the world is to be at all secure. With the Continent consolidated and unified within a Technate, North America can negotiate from a position of strength; and it will not need the danger of a foreign threat to keep the people at home in line. The Continent will have such strength of internal unity that no other combination of powers will dare challenge it.

As for the world, it will then be ready to embark on the first step toward unity. It can unite in a program of tolerant coexistence and, by mutual commitments based on mutual interest, outlaw the threat of thermonuclear war.

When social technology takes over the administration of an Area all the rules of the Old Order are suspended and all the consequences resulting from scarcity, toil, and authoritarianism in accordance with those rules become nullified. The social unity of the Technate will be unique and unprecedented in human experience. History today provides no analogy. Its probability rests on the capability and integrity of applied science—on the science which has produced many wonders which have been condemned as 'fantastic' only a generation before they became reality.

The obvious duty of all North Americans who have any interest in perpetuating a durable and viable social order is to UNITE and play Technocracy to win.

—Wilton Ivie



NEW ALUMINUM CASTING

Aluminum cans are being blown like glass, in a single-step method devised by Ilikon Corp., Nattick, Mass. Gases are fed through the bottom of the vessel filled with molten aluminum; then a die is lowered to the surface, and the metal is blown into it, forming a seamless can. Because they are seamless, the blown cans are said to be capable of containing greater pressure than conventional cans; this should be a boon to the growing number of aerosol manufacturers.

—Rock Products

DAD CAN'T WIN FOR LOSING

THE MOST socially significant news today is more than likely to be found elsewhere than in the newspapers with their usual front page accounts of politics, crime, and sports. True, the papers do give a lot of space to strikes and the general struggle between labor and management, but they fail to recognize the basic underlying causes of that struggle. Automation is discussed, yes; but as something that can doubtless be handled through 're-educating the workers and transferring them into other lines of work.' At least they hope it can. Meanwhile, unemployment continues to increase and the children of the unemployed are growing up with little or no chance to get even preliminary training for entry into the industrial employment market.

Certainly Dad's union isn't the answer, for Dad himself just can't win for losing. Dad's labor has become too expensive and his demands for fringe benefits and basic security have put the boss on the defensive, to the extent that he cannot afford not to invest large sums in research and the newest and most scientific equipment.

Key to the underlying problem can be found in the business and trade publications whose news and advertising columns specialize in presenting the newest and most advanced technological developments. The joker in the situation is this: the new technology is designed to solve the boss' problems, not Dad's.

In his column of January 27 (Seattle Times) Eric Sevareid made the situation very clear when he said, 'The issue is becoming less and less one of wages and working conditions and more and more one of fundamental job security as the implacable movement of technology changes the whole nature of man's work in this country. No longer is the real cry, "More, more, more and now." The real ghost over the shipping and newspaper disputes is automation. The printers' walkout is a spasm of a sick industry. Whole trades, ancient skills are at stake. —Perhaps it is not too much to say that the "labor ingredient" in the value of goods and services is rapidly declining in relation to the "capital ingredient" in the form of research and machinery. —In

any case, the American labor movement—is now, taken as a whole, losing its force.'

If Dad happens to be engaged in the printing field today his future under the Price System is indeed precarious. Under the Price System, even through his union he has only one recourse—one string to his bow. He can still strike and quit. There is no single positive step he can take that will restore him to his former status.

Typesetting has always been the one biggest operation in the printing process. Before the coming of the linotype machines good typesetters were always in demand; typesetting was known as a 'good footloose trade' and a man with that skill could always get a job. Then came the linotype and monotype machines and eventually the operators found it necessary to organize themselves into a good strong union. For a long time they were sitting pretty. But, for the past dozen years the Teletypesetter has been playing hob with their fancied security.

The Teletypesetter sets type automatically from paper tape that can be prepared at almost any distance from the line-casting machine, and the latter doesn't need to have a manual keyboard at all. And now, says Business Week, (January 19) comes a new development that makes it possible to by-pass even the Teletyper: computers are being developed to take over typesetting. The copy is edited, then 'whisked to an electric typewriter, where a typist punches out a paper tape that can be fed directly into a computer without justifying the lines.'

At a meeting held recently in West Palm Beach, Florida, 155 top men in publishing saw this demonstrated at the West Palm Beach Post-Times, where the meeting was held. Speakers from the Radio Corporation of America, a joint sponsor of the meeting, told also how their RCA 301 Computer is now being developed to prepare the typesetting tape for all editorial copy on the newspaper, 'justifying the lines and even specifying the hyphenation of words in order to do so'—a minor miracle in itself. Business Week states also that the Los

Angeles Times has announced that it is already producing 50 columns of type each day with an RCA 301, and 'only delayed delivery of tape-punching electric typewriters is holding up expansion of the computer typesetting operation.'

With Dad working in the printshops a child in such a family was bound to acquire some knowledge as to how a book or newspaper is produced. He would have an awareness of it as a socially useful operation in which he himself might some day be engaged.

The same has been true in many other lines of endeavor, especially the many phases of materials handling and transportation that formerly engaged the active participation of so many family breadwinners. There was a definite connection between the children and young people of a family and the source of their income and general welfare—Dad's job—which used to be something to rely on and give them a feeling of security. Instead, because of pre-empted and mismanaged automation and the consequent unemployment, that sense of security is no longer to be depended upon and the condition rapidly permeates the entire economy. We brag of our 'freedom' yet the youth are not really free to do anything because everything has a price-tag on it which they are utterly incapable of meeting.

Surrounded as they are by all the necessities and appurtenances plus the luxuries for abundant living, yet denied the logical and natural means of fulfillment through an opportunity for normal service and achievement, the wonder is that there are not a great many more so-called delinquents.

It is devoutly to be hoped that while Dad is out of work he will take time to think and ask questions. Why? Why is his union unable to give him the security he needs? If that is impossible, then the union is no longer the answer. If so, is there some other answer for his problems? Then doesn't he owe it to his family to hunt out the facts and find that answer? Well, why not?

So, kids, why don't *you* look into it? Find out what Technocracy has to say and you'll be able to tell Dad a thing or two he ought to know. For instance, maybe this situation isn't after all a matter of 'job security.' Why should your family be dependent upon Dad's—or Mother's—finding a 'job,' anyway, when we are now producing so much of everything that the biggest problem is how to get rid of it for money? Isn't that really what all

the politicians are squabbling about? Why don't we just figure out a way of distributing things so we could all use them and not have to bother with money? We could, you know. It's been figured out already.

As Mr. Severeid said, the issue is no longer a matter of jobs but one of fundamental security. So why all this bother over jobs when what is needed is scientific management by those capable of assuming the responsibility? Note that on such a level this kind of 'work' is not called a 'job' at all; yet it brings a far greater degree of remuneration than any 'job' ever did. Yes, a few of the columnists, like Mr. Severeid, occasionally indicate that they are aware of the real conditions; but it is not their 'job' to supply the right answers. It is even more probable that if they were to expose the fact that the problem had already been solved many years ago they too would soon be on the list of the unemployed. Their own present security would be involved.

No, Dad can't do anything through his union to restore the old status, because it is merely a part of the old worn-out Price System. But, as an already organized group his union members are in the best possible position to promote the new design of operation proposed by Technocracy. They don't have to go down to dissolution with the Price System, as they are now headed. You kids who now face such a dismal future under the Price System can start in right now to learn what it's all about and get your dads to go along with you to a new and glorious future of peace, security and abundance with Technocracy.

—Lucy L. Barnes, 12247-3



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IMPACT OF TECHNOLOGY ABROAD

More profoundly disturbing to the Old Order, more devastatingly to the age-old ideas of mankind than any political concept, past or present, is the march of technology around the world. Social change, induced by technology, population pressure and the simple desire of peoples for something better than they have now, is breaking down the Gates of the Old Order. Nothing, short of total annihilation, will stop social change either in North America or abroad.

CHRYSLER BREAKS GROUND FOR TURKISH TRUCK PLANT

Ground was recently broken for a new truck factory being constructed by Chrysler Sanayi A.S. in Gebze, Turkey to build Dodge and DeSoto trucks for Turkish market.

Total investment is about \$8 million (79 million Turkish liras) and the factory should be completed by late autumn. Architectural drawings will be ready March 1, at which time construction bids will be accepted.

Initial capacity of the plant will be 16 units a day, and the trucks produced will have a Turkish content of 20% which will be progressively increased. Production will be limited to trucks at first, but later on the plant will be able to assemble passenger cars as well.

Chrysler Sanayi A.S. was founded in September of 1962 by Chrysler International S.A. and 3 Turkish partners.

—International Commerce

JAPAN TV MAKERS PLAN

HEAVY MINIATURE OUTPUT

TOKYO—Japan's major television set manufacturers are going all out to produce miniature TV sets, a local trade paper reports.

By the end of 1962 five or six makers were expected to turn out the tiny TV receivers, the Daily Electric Wave Shimbun said.

The portable TV's, ranging in size from 10-inch picture tubes down to 4.5 inches, were pioneered by Sony, manufacturers of transistor radios. It placed its tiny five inch portables on the market in May.

Sony was followed by Mitsubishi Electric Co., which will place a six-inch picture tube on the market Nov. 27.

Others joining the parade to give each individual his private TV set are Hitachi, Hayakawa Electric (makers of Sharp TV and radio sets), Matsushita Electric (makers of National radio and TV receivers) and the Nippon Victor Company.

Victor has announced development of a truly portable TV set operating solely on dry cell batteries. It said its researches have developed a low voltage 4.5 inch picture tube working from nine 1.5 volt dry cell batteries.

The Victor TV machine uses 25 transistors, 25 diodes and a picture tube with a 2¾ inch speaker. The audio output is 200 milliwatts.

—Portland Reporter

NIGERIA TO GET LATEX GOODS PLANT

A subsidiary of English Vitafoam Ltd. will build a factory in Ikeja, Nigeria, to supply latex products to Nigerians as well as inhabitants of the West African coast. The factory built by Vitafoam Nigeria Ltd. is expected to go on stream in June. First year output is scheduled at 350,000 lbs.

Nigeria has two tire factories in operation. One, Dunlop Nigeria Industries Ltd., recently opened its Ikeja facility. The other, Michelin, is producing tires and tubes in Port Harcourt.

—Rubber World

DO YOU KNOW THAT

Europe's metropolitan areas are engaged in massive rapid transit programs? At least 23 major cities—including four on the other side of the Iron Curtain—have just completed or are building extensive new rapid transit lines to carry their mounting volume of commuter traffic. In the forefront are London, Milan, Paris, Leningrad, Rotterdam, Oslo and nine German cities. The total cost of these projects is put at over \$2 billion.

—Civil Engineering

BRITAIN IS RUSSIA'S PRIME FREE WORLD TRADING PARTNER

Great Britain continues to be Russia's No. 1 trading partner among Free World countries. Main imports from Russia include timber, fur, manganese ore, grain, zinc. Main exports to Russia include food, chemical, and light industrial machinery. About 13 per cent of Russia's foreign trade turnover is accounted for by Britain, West Germany, Finland, France, Italy and Japan.

—Steel

TRANSFORMERS

BRAZIL—Central Electrica de Furnas has ordered two transformers from Industria Eletrica Brown-Boveri, Osasco, Sao Paulo. One transformer will have 30,000 kva capacity and the other 60,000. The latter will be the largest ever built in South America.

—San Paulo Foreign Trade

BRITAIN IN DEAL FOR RUSS SALMON

LONDON—The government has agreed to import nearly \$14,000,000 worth of Soviet consumer goods in return for a Russian pledge to import the same amount of goods from Britain, according to an announcement here. It said the British imports will include \$2,800,000 worth of canned salmon.

—Seattle Times

RUSSIA MAKES TOUGH GLASS COATING

Returning from a visit to Russia, Sam Peabody of Ebasco Service told a group of NACE engineers he saw an unusual method of protecting steel tubes against corrosion. Tube is coated with borosilicate glass. It's so tough that when Peabody hit it with all his strength—and a steel bar—he could not damage it.

—Power

PASTE PLANT FOR SOUTH AFRICA

Aluminum paste, used in the manufacturing of all aluminum-based paints, is to be manufactured in South Africa for the first time at the Pietermaritzburg factory of Alcan Aluminum of South Africa Ltd. Production will begin in the second half of 1963 and is expected to save the country R130,000 and more each year in foreign exchange.

At present the South African paint industry absorbs nearly three-quarters of a million pounds of aluminum paste a year, a figure well within the expected capacity of the modern plant now being installed at Pietermaritzburg at the cost of R195,000.

—Light Metals, Jan. 1963

REDS TO IRRIGATE

TOKYO—Communist China says the 100-mile Puyang River is being straightened and widened to irrigate 74,000 acres.

—Seattle Times

IRAQ ANNOUNCES \$48 BILLION OIL DISCOVERY

BAGHDAD IRAQ—A new oil strike in Baghdad has disclosed reserves of 3,500,000,000 tons which may ultimately yield oil worth \$48,000,000,000, Premier Abdul Karim Kassem said here.

He told a press conference that laws setting up a national oil company will be announced soon.

Mr. Kassem did not disclose the location of the oil strike, but he said it was outside the concessionary areas granted to the Iraq Petroleum Company and associated companies.

—Christian Science Monitor

AIR PRODUCTS TO BUILD OXYGEN PLANT IN CHILE

Air Products and Chemicals, Inc., Allentown Pa., will build an oxygen plant for Compania de Acero del Pacifico S.A. (CAP), of Chile.

The plant will produce over 100 metric tons of high purity oxygen per day for this South American steelmaker, Air Products reports.

CAP's fully integrated steel mill was placed in operation in 1950. The new plant will supply oxygen for openhearth lancing to increase steel production as well as for general mill use.

The plant consists of compressors, cold-boxes and storage facilities.

—The Iron Age

SOVIETS PLAN MOSCOW TO CUBA

JET AIR SERVICE

HAVANA—A Soviet airline chief has reported "all clear" for a weekly jet service between Moscow and Havana—claimed to be the world's longest direct flight—it was announced here.

Vyacheslav Bashchinov, deputy director of the Soviet airline Aeroflot, reported to Transport Minister Omar Fernandez Canizaries that proving flights and ground trials at Havana's Jose Marti International Airport of the TU-114 airliner with full 170-ton payload were satisfactory.

No date has been announced yet for the inaugural flight.

Five TU-114's, which fly at up to 31,500 feet at a cruising speed of 470 m.p.h., have been made available for the service.

They will make the flight in 15 hours, but large fuel loads mean they will be able to carry only 60 passengers.

—Christian Science Monitor

FRANCE, RUSSIA SIGN BIG, NEW TRADE TREATY

MOSCOW—France and the Soviet Union signed a three year trade agreement recently calling for an exchange of goods on each side amounting to about \$100 million annually.

The agreement, to run from 1963 through 1965, represents an increase of about 10 to 15 per cent over the previous trade pact.

A Soviet announcement said France will supply the Soviet Union machinery for chemicals, paper, pulp, electronic and food enterprises, machine tools, steel tubes, nickel, artificial fibre and other goods. The Soviet Union will sell to France anthracite, oil and oil products, manganese and chromium ore, machine equipment, watches and other commodities.

—Seattle Times

INDIA STUDIES ATOM FOR POWER SUPPLY

NEW DELHI—India is turning to atomic energy in some parts of the country because it is cheaper, Prime Minister Jawaharlal Nehru says.

There seems to be a paradox in building atomic-power stations while villagers are still using cow dung for fuel, Mr. Nehru said in inaugurating a United States-aided survey of India's power needs.

But atomic power is economical in areas far from other sources of industrial and lighting energy, he said.

India has contracted with the International General Electric Company of New York to build a 380,000,000-watt atomic-power station at Tarapur, near Bombay. Another station is planned for the state of Rajasthan.

—Christian Science Monitor

CONTINENTAL TRENDS IN TECHNOLOGY

DATA-PHONE EXTENDED TO FACSIMILE TRANSMISSION

The ability to send drawings, maps, charts and documents over regular telephone lines was recently announced by the A.T. & T. Co.

A new data set which will make possible facsimile transmission over telephone lines is expected to be available in limited quantities in the first quarter of this year, pending the outcome of product trials now under way.

The data set will extend the Bell System's Data-Phone service to the field of facsimile transmission for the first time. Until now, facsimile material could be transmitted only over special communication networks or private lines.

Data-Phone service enables various types of data to be transmitted between business machines over regular telephone lines at speeds up to 2,500 words a minute. Data sets convert signals from business machines into pulses which can be sent over telephone lines. At the receiving end, data sets convert the signals and feed them to the business machines.

With the new service, anyone with a facsimile machine compatible with the new data set can dial anyone else with similar equipment and send copies of documents and other printed material at regular telephone rates.

Several companies are developing facsimile machines which will be compatible with the Bell System's data set.

This is the second type of analog data set developed by the Bell System. Already available is a series of telewriting data sets which make possible the transmission of live handwriting over regular telephone lines.

—The Bell Laboratories Record

Plastic lakes are becoming popular in arid western territories. Bulldozed basins are lined with large strips of polyethylene plastic, which are either taped together or joined by heat. The seams are buried in foot-deep trenches and, in the case of lakes intended for recreational use, a protective coating of earth is laid over entire liner. A 20 acre lake has been completed at California City by Kepner Plastics, Torrance California; another firm, Palso Inc., Indio, is planning to build lakes as large as 100 acres. Only limiting factor say the builders, is cost; the 20-acre project took \$45,000.

—Rock Products

PROTECTION FROM ICE DAMAGE

A unique ice melting system that is expected to eliminate ice damage is being installed in both the East and West Yacht Basins of the City of St. Joseph, Michigan. The "water-lift" ice melting system, known as Air-Aqua, makes nature an ally to produce heat necessary to melt ice. Density and weight of earth-warmed bottom lake water is changed by aeration. As the density changes the water rises, bringing with it the heat of the earth. The former surface water rolls to the bottom where it absorbs heat and then is returned to the surface to continue the melting process. This system consists of an oil-less air compressor and specially processed polyethylene tubing. The tubing forms thousands of die-formed check valves. These tiny check valves emit bubbles of the optimum size for maximum oxygen absorption. This process uses a combination of small bubbles to change the density of water and larger bubbles to produce a controlled rate of circula-

tion. Power from a small electric motor ($\frac{1}{2}$ -hp) can melt more than 100 tons of 2-feet thick ice in 24 hours.

—Civil Engineering

MORE POWER

A new 20,300-acre lake was created at Virginia Electric's Gaston Dam, when sluice gates were closed and filling operations started recently. The new 34-mile long reservoir covers parts of three counties in North Carolina and two in Virginia. This is part of Vepco's new \$46.5 million hydro station nearing completion on the Roanoke River, about 8 miles upstream from Roanoke Rapids, N.C. Four 70,000-horse power turbines will be connected to 50,000-kw generators. The 200,000-kw of power are expected to meet present and future needs of company customers. The station is scheduled for operation by next April.

—Power Engineering

HOSPITAL SETS UP 'MEDICINE MACHINES'

Providence Hospital announced today it has installed electronically controlled medicine-dispensing machines at six of its larger nursing stations.

The new devices, which will dispense previously prepared medicines on a doctor's order, are expected to allow nurses to devote more time to bedside care. The nurse no longer will need to make time consuming trips to the hospital pharmacy.

Providence is the first of Seattle's large hospitals to install the subpharmacy stations. Standing Memorial Hospital put one in operation about a year ago.

Sister Gertude, Providence administrator, said each of the machines holds 96 prescriptions—those needed most often on that station. They will be available around the clock rather than just during pharmacy hours.

Another time-saving device, in conjunction with the machines, are medicine-dispensing carts, which are rolled to the bedside.

Sister Gertrude said hospital experience indicates the nurse will save from 40 to 60 per cent of the time required to complete a patient's medication.

—Seattle Times

GIANT GENERATOR FRAME FOR WESTINGHOUSE

A mammoth machine that will mill, drill, tap, counter-sink, back-spot and slot, bore and face turbine generator frames as large as a two story house is now being built for Westinghouse. The 100-foot long machine, built by Consolidated Machine Tool, will be tape-controlled. It will cost two million dollars—the largest expenditure Westinghouse has ever made for a single machine tool. It will be installed at East Pittsburgh in mid-1963.

—Western Machinery and Steel World

34,000 MILES OF ALL-WEATHER HIGHWAYS TO BE OPEN IN MEXICO BY NEXT YEAR

MEXICO CITY—Mexico will have about 34,000 miles of all-weather highways by 1964, the government predicts.

—Seattle P.I.

MIDGET COMPUTER

Less than a tenth the size of a normal comparable computer is the Micropac, a 90-pound midget designed by Radio Corp. of America for the Army. Wafer-shaped micromodules, 3/10-inch square and 1/100-inch thick, are the secret. The miniature electronic components can be mass produced, and are said to outperform their bulkier counterparts. The Army has spent \$18 million in developing the micromodule, and another \$8 million is sunk into the program for this fiscal year. Besides this computer, intended for field use, micromodules will be the "life blood" of radar equipment, radio "walkie-talkies" and electronic typewriters.

—Rock Products

SUPER-FAST CAMERA

Researchers at Bell Telephone Laboratories recently completed experiments with a fiber optics image dissection camera which can take a sequence of 75 X-ray pictures at a speed of 400,000 frames per second and still produce good results.

High-speed cinematography is an important tool for research into many physical phenomena. X-ray pictures are particularly needed for studying actions like that of a melting fuse or an electrical contact inside a sealed relay system. In rocket propulsion, X-ray pictures are useful for determining the mass and velocity distribution of particles in the combustion process.

Conventional high-speed cameras are limited by the speed of their mechanical shutters. A way to overcome this barrier is to use some form of image dissection plus a continuous movement of the film plate.

The new camera uses an assembly of glass fibers embedded in a matrix to conduct light to a photographic plate. The fibers are coated at one end with a phosphor that converts the X-rays to visible light. The matrix and the rapidly moving plate beneath it act as a high-speed recorder.

The first fiber optics image dissection camera was designed at Bell Laboratories for high-speed X-ray photographs. It soon became apparent, however, that the technique was also useful, with sufficient intensity, over the visible spectrum.

The most recent application has involved photographing emission from the end of a ruby optical maser. Other applications include, for example, the study of the formation of electric sparks, the examination of fatigue in metal, or the study of various biological phenomena.

—Bell Telephone Magazine

A new type of tire, designed to combat skidding on snow and ice, is now being produced in limited quantities by Dunlop Tire & Rubber Co., P.O. Box 2011, Buffalo 5, N.Y. Tire has special chopped steel wire strand milled into the thread compound and bonded into place. Resulting surface looks like suede and is rough like a wire brush. Surface does not disappear but renews itself as tire wears.

—The Midwest Engineer

A LOOK AT THE AUTOMOBILE

The auto industry passed another milestone a few weeks ago when it produced the 200 millionth vehicle—185 million passenger cars and 15 million trucks.

Figuring 16.5 feet as the average length of a car this means the bumper to bumper length of these vehicles would be 625,000 miles.

—Everett Daily Herald

SAFEMAY USES UNIVAC SYSTEM

LOS ANGELES—Safeway Stores' distribution center here, thanks to Randex, Remington Rand's Univac computer installed earlier in 1962, can data process billings for its San Diego, Calif., and El Paso, Texas, divisions, where before April, 1962 only local division billing could be done by the old punch card system.

The equipment installed in April and August, according to Jack Allen, manager of data processing for the division, was operative within a 30-day period after installation, but is using only one-half of its total potential at present.

The Univac allows Safeway to pre-bill stores two days in advance and provides a summary of store charges and the recap page showing taxable and non-taxable values, the total retail and cost extensions, gross percent of profit and shipping weights, he said.

While all this is going on, Randex's memory unit is updating Safeway's book inventory of all the commodities involved, Mr. Allan commented.

"We give buyers a report every morning based on information which covers our inventory, plus our daily receipts, minus store shipments, and plus or minus any other adjustments," he added.

Adjustments, he said, will take in merchandise returned for credit, additions for orders taken over the telephone, items marked out at grocery warehouses and other factors.

"We also provide the buyers with a movement record each four-week period by commodity items, showing the total number of units shipped, the retail and cost values, the average numbers of each unit shipped per week and the gross per cent of profit.

The Univac automatically takes total shipments and divides on a four-, eight- and 12-week basis to report the average movement of commodities. "This eliminates buyer guess work," he said.

Mr. Allan said, "The initial cost in transferring from the card to the tape system was limited to the preparation of programs designed to process input information through the Randex system."

He said in future months, more warehouses will be given information from Univac. "Right now we are operating two shifts daily with one Randex working on billing while the other is being used in part for programming future work to be processed by the system."

Mr. Allan gave a step-by-step description of the system. "The store manager has a price and order book containing the page and line number that automatically gives a code number of the commodity involved. The form also contains space for the inventory and the order of the commodities. The price and order control form gives us a history of 15 orders.

"The order requirements are transferred from the price and order control form to scan cards for each commodity ordered. The second step comes when scan cards are mailed to the division office and are checked off to make sure all stores have turned in orders, and are then processed through an optical scanning machine. This equipment automatically reads and punches each card for a total of 40 items per card to complete that process.

"Then we add a lead card to each deck of cards to identify the deck for each store by warehouse. The cards are next processed through Randex, Univac equipment. The cards processed through Univac magnetic tape then provide printed invoices over the high speed of 600 lines per minute," he concluded.

—Supermarket News

DEVELOPING SOCIAL PROBLEMS

POPULATION TOPS THREE BILLION

For the first time in history, the earth's human population has passed the 3,000,000,000 mark.

—Christian Science Monitor

DROP IN FARM WORKERS

Number of workers employed on the farm dropped 41 per cent from 1950 to 1960, according to a report by the U.S. Department of Labor. This is the largest movement out of farming ever recorded during a ten-year period.

Less than four million workers were employed as farmers, farm managers, farm laborers and foremen in 1960, compared with the 6.7 million employed in 1950.

The report shows that at the start of this century, one of every three workers was engaged in agricultural work. By 1960, this had dropped to one in 18.

The continuing drop in farm labor needs is made possible by the tremendous increases in agricultural productivity. Output per man-hour increased twice as fast in agriculture as in industry during the past decade.

Between 1950 and 1960, the number of tractors on American farms increased 44 per cent, the number of combines increased almost 50 per cent, and lime used rose over 60 per cent. The average farm size went from 215 acres to 302 acres during the same period. . . .

—California Farmer

ELIMINATION OF WHITE COLLAR WORKERS GAINING MOMENTUM

. . . Says George Spatta, blunt-speaking president of Clark Equipment Co., a Buchanan, Mich., manufacturer of materials handling equipment, automotive parts and earth-moving machinery: "You'd be amazed at how many useless white collar people there are. We're going to get rid of them."

Secretaries, production schedulers, personnel specialists, vice-presidents, public relations men, engineers, computer programmers and other administrative and technical people make up a far larger proportion of a manufacturer's total personnel than they did a few years ago. Since 1947, the number of white collar workers employed by manufacturers has climbed 65%; over the same span, the total production force has shrunk 7%. White collar payrolls now constitute over 35% of the total manufacturing payroll, up from 25% in 1947. . . .

. . . Between May and October this past year, the steel industry as a whole cut its salaried force to 115,416 from 120,303, according to the American Iron & Steel Institute.

One of the most rigorous belt-tightening operations by a major corporation was undertaken by Chrysler Corp. in 1961. It fired 7,000 of 36,000 white collar employes, from secretaries to high-ranking executives. . . .

—Wall Street Journal

HOW HIGH IS THE BUDGET?

WASHINGTON—President Kennedy's new budget is the biggest in U.S. history.

How big is that?

So big that if all the nearly \$100 billion he seeks were stacked up in \$1 bills, the pile would reach 6,300 miles into space—which is where Kennedy wants to spend much of it.

No one actually tried stacking bills that high. No one ever had that much.

But one U.S. Treasury Department official said calculations showed that that's how high a pile of "uncompressed" dollar bills would reach.

—Long Beach Independent

FIVE STATES IN MEXICO BECOMING DESERTS

MEXICO CITY—Erosion and deforestation rapidly are turning five northern Mexico states into deserts, the National Paper Industry Chamber warned. It listed the states as Coahuila, Nuevo Leon, San Luis Potosi, Sonora and Zacatecas.

—Long Beach Independent

LIQUOR CONSUMPTION

Drinkers are estimated to have consumed a record 252 million gallons of distilled spirits during 1962, up from 241.5 million gallons consumed in 1961. Liquor consumption has not declined since 1957.

—Wall Street Journal

TV PROPAGANDA:

RUSS FILM CONTRASTS WALL STREET, SLUMS

MOSCOW—The Soviet television network showed a newsreel film on New York City tonight.

Much of the half-hour was devoted to contrasting the riches of Wall Street and the city's slum sections. Cameras zoomed in, too, on New York's unemployed.

The film was one of a series of propaganda shows dealing with various sections of America.

At one point in tonight's film, "Streets of New York" the announcer described the city as the show window of America.

The film showed men rummaging through trash cans, Negro children in Harlem playing in slum streets or in trash-filled lots, the longshoremen's strike which idled the city's docks, and idlers seated on the steps of the Public Library at Fifth Avenue and 42nd Street.

It wound up with a pro-Castro demonstration outside United Nations headquarters.

Before the slum pictures, the film showed about five minutes of Wall Street which the announcer described as "the street of big business and the empire of the dollar." He said the Stock Exchange was the place where a dozen bankers got rich but thousands of others got poor.

—Seattle Times

Ed. Note; Call it propaganda—but no one can deny that these deplorable conditions exist and are widespread all over the continent.

MANY MORE MILLIONAIRES

The number of U.S. millionaires and multi-millionaires is increasing by leaps and bounds. Since 1953 the number of millionaires has jumped from 27,000 to more than 100,000, an increase of nearly 300 per cent. The number of multi-millionaires—those with nest eggs of \$5 million or more—climbed from 2,000 to 10,000, an increase of 400 per cent.

These were impressive statistics, and understandable, but there was one statistic that no one could interpret. It involved women who, more and more, are owning and controlling the largest part of the nation's wealth, possibly because they're outliving men. The baffling statistic is this: women are richest between 30 and 50; but no explanation of what happens to a woman's wealth after she passes 50 has come to light.

—The Railway Clerk

Editor's note: What's Kennedy complaining about? Isn't this growth? At this rate it would be only a few hundred more years before everyone would be successful. Meanwhile, the 77 million Americans who live in poverty, or near it, will just have to be patient.

HALF OF U.S. POVERTY IN RURAL AREA

LAS VEGAS—Secretary of Agriculture Orville Freeman Monday said there is more poverty in rural America at present than in all urban areas combined.

"More than 15 million Americans in rural areas live under poverty conditions by our standards today," he said. "Out of the eight million families in this country today who earn less than \$2,500 annually, some 4.1 million live in rural America. In other words rural areas account for only a third of our population but for over half its poverty."

Addressing the 21st annual meeting of the National Rural Electric Cooperative Association, Freeman said the poverty has come in the wake of what he termed "astounding advances in farm technology and production."

—Long Beach Independent

Loss from worthless checks offered for payment in the United States in a single year runs as high as \$300 million.

—Everett Daily Herald

Private, long term investment abroad by Britons last year equaled \$999,600,000. About half is in under developed lands.

—Everett Daily Herald

CONSUMERS BORROW BIG

Total installment credit outstanding swelled by almost \$600 million in November, to \$46.6 billion. This is the biggest month-to-month credit expansion in more than three years.

Leading force behind the November expansion was a near-record consumer demand for auto credit. This credit expanded by \$307 million in November to \$19.3 billion. And this beats any monthly showing since September 1955.

But there were other signs that consumers are in a mood to buy more durable goods generally. Credit for buying major appliances and other big-ticket items rose \$123 million. Expansion here in October mounted to \$74 million.

—The Iron Age

MARCH TO PROTEST CUT URGED

OLYMPIA—Veterans' organizations, concerned about Governor Rosellini's proposal to reduce the budget of the Veterans' Home at Retsil by \$32,000, are considering a march on the capital, State Senator Frances Haddon Morgan, Bremerton Democrat, said today.

Mrs. Morgan said she had been informed by Herb Theisen of the United Veterans' council of Kitsap County that a meeting will be held in Bremerton to determine whether they should come en masse to Olympia, and perhaps camp on the Capitol grounds as a group of veterans did several years ago.

Rosellini recommended that the budget of the Veterans' Home for 1963-65 be \$1,840,009 with no recommendation for capital construction.

Mrs. Morgan, chairman of the Senate Committee on Institutions, said she felt other state government activities should be cut before the budget for veterans and old people.

She will review expenditures and ask the Senate Ways and Means Committee for trims.

She said the Department of Commerce and Economic Development's \$2,981,722, probably could be eliminated letting the Chambers of Commerce do its work. She noted the governor had proposed local governmental agencies should carry more of the load.

She said the new central budget agency also would bear scrutiny.

Mrs. Morgan said the lot of veterans and the aged should be improved.

The old peoples' ward at Western Washington State Hospital "stinks," she asserted.

—Seattle Times

MORE WHEAT

A new Agriculture Department report indicates that Uncle Sam's piles of surplus wheat will rise again next year despite the rewards for not planting wheat offered by the farm bill Congress passed this year. The report estimates that winter wheat production in 1963 will total more than a billion bushels, a 26 per cent increase above the 1962 crop.

—Labor

EMPLOYERS OWE GOVERNMENT \$268 MILLION

More than 316,000 employers last year took Federal income and social security taxes out of the pay envelopes of their employees and appropriated the money for their own uses.

The money diverted by these employers amounted on December 31, 1961, to more than a quarter billion dollars—\$268,465,000. This represented a 13 per cent increase over the previous year. This occurred despite the fact that failure to turn the money in to the Government is a Federal offense, punishable by up to a year in prison or a \$5,000 fine, or both. . .

—Labor Herald

WAITING LIST FOR RETARDED GROWS

OLYMPIA—The waiting list for admission to state schools for the mentally retarded has reached 1,224, the State Department of Institutions reported yesterday.

The list is expected to grow to 2,100 by 1965.

The report said the present population of the schools numbers 3,886.

—Seattle Times

THE CULT OF RESPECTABILITY

To the person with a sense of social responsibility and personal integrity, there can be no pride in his achievements and acquisitions within the Price System. At best, they constitute a facility for survival and relative comfort over the period and through the process of social transition. The heritage of the people of North America is vast, and they are pikers if they sell it out for a few Price System bangles.

DURING the late 1920's and through the 1930's the people of North America had a sense of social desperation that challenged their intellects and stimulated an urge to action in a collective sense. They found themselves living on the richest Continent of the earth, with the most highly developed technology and a surplus of food production; yet, many of them faced poverty, hunger, and uncertainty. They were beginning to question the old social values. Unfortunately, they displayed scarcely any more coordinated direction than a handful of fleas on a hot stove, tending to jump in all directions. But, at least, there was a demonstration of social consciousness and initiative, although, admittedly, most of it was generated by external circumstances. The liberal and leftist political parties attracted many; then, there was a variety of welfare cults, with an emphasis on pensions for the old folks, which gathered in many members. The significant thing was the way the people were setting aside the old values and aspirations of the Price System and were feeling around for new ideas.

The venerable institution of 'capitalism' was under heavy criticism; even the ministers of the gospel had stopped saying nice things about it. College instructors could speak semi-affectionately about collectivism and socialism and, although the wealthy businessmen on the governing boards did not approve, they did not call such 'leftists' before an inquisitorial loyalty board nor arbitrarily fire them from their jobs. (That behaviour was to come later.) They merely had their wives circulate 'hints' through indirect channels to your wife. Foreign intellectuals, even communists, could come to this Continent and give public lectures; and (usually) the American Legion stayed in the background and Catholic youth organizations refrained from mob violence. For a while, a large number of North American citizens relaxed their struggle for personal respectability and began thinking of a new and better social order. In fact, among large

segments of the population, classical notions of respectability were going out of fashion.

During the Great Depression, the problem facing millions of individuals was the problem of survival, not the problem of becoming elegant. Of course, that new WPA-constructed privy in the back yard may not have been your number one choice for the kind of facility; but, chances are, it was an improvement on anything your ancestors had ever had. So, if you were short of shekels, you settled for the WPA job and forgot about the shiny indoor facility with chrome metalwork, the white enamel surface, and the pearl luster seat.

Then, in the course of events, our politicians got us into World War II, and there was a job for almost everyone. Of course, if you had ever been arrested for bootlegging or something like that, you weren't permitted to work on any of the lush war jobs, but you could still get drafted and be sent to the war zone. On the whole, money created out of nothing began to flow freely, and everyone was out to get his share of the 'gyp.' Many who had agitated for a new social order, earlier, were in the war effort with the rest of them, working overtime and collecting overtime pay; unless, of course, you were a recruit in the Armed Forces, then you just worked overtime. There was still much talk of the brave new world that would be created after the war, when facism would be defeated and human beings could be decent again. Many a former advocate of a social 'cause' promised that he would devote himself to the war effort and save his money until the war was out of the way; then, he would give full time to the 'cause' and really do a job. It was a good line and, maybe, it was sincerely meant—at first.

With the war over, there were lush business profits to be made; and almost everyone with some money saved up decided to go into a little business for himself. Now, the line of the former dissenter became, 'Let's get in the trough while the getting is good and pile up a fortune; then, we can do a

double-barrel job of working for Utopia.' If the little business endeavor failed, as most of them did, the matter of survival became a fulltime struggle. But, if the job or enterprise prospered, the erstwhile Utopian argued that, before going to work for the New Order, maybe he should get used to living in 'Utopia' first, just to see how it felt. So a new home in the suburbs became an urgent item on the agenda, also a shiny new car, then television. The wife and children cooperated wholeheartedly with this new trend. The man's former 'radical' tendencies became an embarrassment to the wife and kids (teenagers or older, now), and the 'old man' was held in a sort of contempt. Before long, the man himself began to wonder if he had really shown good sense in thinking about a new society at all. Then, he probably joined one or more 'accepted' clubs, started attending church more regularly, and began fraternizing with the fellows with plenty of front but no ideas. He was on the way to becoming respectable.

Perhaps it was the woman, and not the man, who had the 'radical' background; or perhaps they were both in it together; or, possibly, the whole family had been active. It made little difference; the end result was the same. The last feeble effort to pretend that the old 'fire' was still there, albeit quiescent, came with propounding this line: 'Well, I guess I had better 'lay low' and plug along with the crowd until the children are through school and married, so as not to embarrass or handicap them; then, I can get in and pitch again.' The spark died out completely with this final gasp: 'If I only had the vitality of twenty years ago, I might do something about it; but I figure I've done my stint, and it's up to the younger generation to carry on, now.' Thus, the radicals and utopians of the 1920's and 1930's threw up the fight and joined the Cult of Respectability.

Problems More Desperate

The old social order remains, its fundamental problems unresolved and getting more desperate. Respectability has been bought with borrowed money and squandered resources—not just ordinary old-fashioned respectability, mind you, but chrome-plated, gold-trimmed, double-polished respectability. Please don't get the notion that we are advocating any kind of 'return' to the good old days, with the two-holer in the back yard and a Model T sheltered in the harness shed. But what intrigues us is the inversion of values that has taken place in the past dozen or more years. Why the great urgency to clean up the little stinks in the

back yard while the really big stinks out front are allowed to putrefy?

The political system smells as bad as ever, or worse. Business is more greedy and corrupt than ever. Arbitrary authority is getting more intolerant and negative. The incentives that lead to war and possible annihilation are allowed to flourish.

Any objective appraisal of our resource and energy problem compels us to realize that, for the future, we must cut costs and curtail wastage. Are we attempting to do either? No. The ballyhoo artists in business and politics are issuing tons of illustrated brochures, promising ever greater and more grandiose waste and extravagance. A huge increase in the population is envisioned with delight and the future consumption of resources is presented in fantastic figures.

Yes, it is nice to be equipped to move your bowels in comfortable and pleasant surroundings; but, if you are going to let that accomplishment alter your social outlook to the extent of your desiring personal respectability in the Old Order of things, then, it is questionable whether the indoor gadget is a worthwhile asset.

Folly of Hypocrisy

We Americans do not protest too much when our young men are recruited into the Armed Forces and sent overseas to participate in slaughter, mayhem, and arson, under filthy and uncomfortable circumstances, primarily because there are millions of dollars of invested values at stake, albeit owned by only a few corporations and millionaires. That kind of 'roughing it' can be made to appear patriotic. But when it comes to facing the internal battles at home, we must 'lie low' and appear re-sepectable so as not to embarrass the young folks with ideas or expose them to the hardships of personal struggle. As a result, the younger generation wants to be even more respectable than the parent generation. It is, indeed, a most fitting retribution for the folly of hypocrisy.

There is no call for North Americans to be martyrs or fanatics, however. A moderate degree of integrity among those whose thinking and actions count for something is enough to shake the foundations of the Old Order. A realistic appraisal of the present situation and a sense of social responsibility among one or two per cent of the people would work wonders. North Americans can have it 'cheap.'

During World War II, many thousands of people lived under desperate conditions, fighting a partisan war against fascism. They did not have

the status of formal military personnel, and they were without the benefits of military logistics. They fought desperately and ruthlessly and, when overpowered, were dealt with ruthlessly. Many of them did not have even the basic comforts normally afforded domestic animals. Their only hope was to survive until final victory, or, if need be, to die fighting for their cause. They had no Cadillac convertibles, no ranch-type houses in the suburbs, no wardrobes of fashionable clothes, and no easy job with a weekly pay envelope. That their sacrifices and efforts were later to be scorned by the leaders of many of the countries they fought for, once those countries were out of immediate danger, does not detract from their valor.

That kind of struggle is not demanded of Americans, certainly not at the present time. But some of that same sense of desperation is needed; also some willingness to de-emphasize the super-niceties of life until the major struggle against Price System barbarism is won. While it is futile and needless to expect any American to give up, altogether, his personal comforts and interests and to act and think unceasingly in the common cause, there is still no reason for him to make a fetish of those comforts and interests, particularly if they are related to the values of the Price System. If it is within one's economic capabilities to acquire a comfortable modern house, a dependable automobile, and a number of desirable household and workshop gadgets, and to indulge in satisfying recreational activities, it is not to be deplored. The sad ending comes when this same person surveys his acquisitions with smug satisfaction and in effect says: 'For this I have compromised my integrity, abandoned my principles, and quenched the spirit of dissent.' To be proud of any achievement in the Price System is to register some degree of satisfaction with the Price System itself and to soften one's contempt for it.

Major Problems

An objective study of the trends in our society makes us aware that the fundamental problems of civilization are becoming more intense and urgent, and impresses upon us the realization that no suitable program has yet been instituted to meet them. Among these major problems are: the population problem; the depletion of mineral resources; the high energy cost of transportation and other social operations; the tyranny of ecclesiasticism, politics, and finance; the stultification of the distribution process, so that the consumers are denied full use of

the products of their own area; the failure of most large areas to achieve self-sufficiency and self-containment. To these may be added the danger of ever more devastating wars and the steady medicritization of populations.

To the person with a sense of social responsibility and personal integrity, there can be no pride in his achievements and acquisitions within the Price System. At best, they constitute a facility for survival and relative comfort over the period and through the process of social transition. The heritage of the people of North America is vast, and they are pikers if they sell it out for a few Price System bangles. However, if a Cadillac comes your way, take it. If a swank penthouse apartment or an estate in the country is yours for the taking, so much to the good, if you can 'absorb' them. It is what they represent to you that counts. If you can accept them and still feel contempt for the system that provides them, congratulations! But, if you acquire along with them a feeling of satisfaction with the Price System and a loyalty for it, you have sold out your own heritage too cheaply and you have betrayed your social responsibility.

Ignorance and Faith

Most North Americans have been successfully conditioned to the values of the Price System. Out of ignorance and faith, they accept the system as if it were the 'will of the gods'; and they blame only their own lousy luck if it does not pay off as well as they would like. But these are not the people who count for much in the destiny of the Continent. Only if they should become aroused somehow and all start moving in the same direction would they be of strategic importance; but, then, their action is as likely to be negative as positive. Otherwise, they are an inert matrix, holding the status quo in place. When they move forward, it will not be from comprehension of where they are going or from spontaneous internal initiative; it will be from some major force imposed upon them from without.

We are not dealing here, with that *majority* of North Americans. What we are concerned with is the *minority* which is capable of pioneering a new idea for social change. This minority does some serious reading; it has some analytical comprehension of what is going on in the world; and it occasionally discusses something other than babies, ball games, and banalities. Within this minority, some are economically successful and some are in desperate circumstances, but most are more or less comfortable for the present, although a little apprehensive about the future. It is the thinking and

objectives of this minority that must provide social direction for the Continent. That is, insofar as this relies upon the 'human element.'

The Primary Social Determinant

We must remember that it is technology even more than human desire that is the primary social determinant, as well as the significant determinant of the final goal. But it is equally important to remember that technology is the servant of man and man is the 'master.' While technology tends to provide its own progression and sets its own standards of performance, man still has the duty and responsibility of deciding where technology is to be applied. Man must outline the field wherein technology is to operate and advance itself. Now that society has passed the point of 'no return' with respect to technology, man's future depends on his cooperating with his technology and letting it find the answers to the problems he must resolve. And, in doing so, he must be prepared for social change. The thing about technological progress that annoys the man of traditional concepts the most is that the answers which technology develops, while highly effective, are not the ones he was anticipating. For example, who would have anticipated that the problem of the small farmer would have been resolved by eliminating the small farm?

Throughout the historical period of ancient and medieval Egypt, Palestine, Greece, and Rome, the social emphasis was placed on the development of the cultural arts; among them, politics, philosophy, priestcraft, literature, the fine arts, and social graces. The only significant technical training was in connection with the art of warfare, where there was a constant struggle for supremacy between the builders of siege-proof fortifications and the designers of ever more efficient siege devices, between techniques and devices of offense versus those of defense. Other than this, technical skills were mainly used in the building of palaces, cathedrals, and tombs. Agriculture and transportation (other than military) remained virtually without technical improvement over many centuries. Scholastic education was devoted entirely to the cultural arts—the so-called humanities. The Dark Age of Europe was a natural consequence of such an emphasis. Yet, there are many prominent leaders today, among them men high up in government, education, and religion, in both the United States and Canada, who are protesting against the present emphasis on technical training, as small as it is, and who claim that the future welfare of mankind demands

more attention be given to training people in the cultural arts, the 'humanities.'

In the past, respectability has appeared in the robes of the cultural arts. The summit was achieved by the political, ecclesiastical, and financial noblemen who could display grandiose dwellings, elegant clothes, liveried transportation vehicles, and a retinue of servants. Technical men were accorded only some lower rank of social distinction, if indeed they were not actual slaves.

Those same values have carried over into the present day. The technical men of science and engineering are regarded as some sort of hirelings, to do the bidding of the 'respectable people'; but they are not to be trusted with much say in social policy matters.

The Criterion of Function

The time has come to reverse the old order of things. The technical men must assume control of the social mechanism and operate it according to technological principles. At the same time, the cultural arts must be de-emphasized and reduced in rank and respectability to subordinate and superficial efflorescences on the technological setup. The criterion of function, necessarily, must have first consideration in a technological age. The first question to be asked about a device is, 'What is it to be used for?' After that, and subordinate to it, the questions about appearance and pretense may be entertained. For example, an automobile is a functional device to be used to transport people and materials. After the technical requirements of load capacity, durability, speed, and efficiency have been met, such matters as color, polish, decorations, and upholstery may be considered, with the stipulation that they do not detract from the functional aspects of the automobile. When a car has three times the horsepower rating that it requires merely for prestige purposes, or when it consumes three times as much fuel as is necessary, or occupies much more space than it needs to, or consumes scarce materials merely to produce an effect, then it is time for the humanities to be subordinated to the technicalities.

North Americans have a big job to do on their Continent. In the doing of this job, the old values must be dissipated in the process of establishing new standards of function. It is easy, if one has the means, to fall prey to the lures of the Old Order. On the other hand, it takes more courage to display contempt for the Old Order and promulgate the principles of a New Order. The guardians of the Old Order are jealous of their values—their symbols of respectability. So long as the institutions

of the Old Order are in command of social affairs, the pioneer of the New Order will not have an easy time of living with the neighbors. His personal problem is on living in, but not for, the Price System. He must play the Price System game insofar as his personal survival and essential comforts are concerned; and, due to his past conditioning, he will probably find most of his amusements and escapisms within that system. He also has the problem of maintaining formal legitimacy within the system.

The failure of the social pioneer comes when he decides to seek a status of respectability in the Old Order. The only valid excuse to do such would be to gain entrance into the inner chambers so as to be in a better position to do termite work on the system. One of the greatest personal failures of our time is that of Clement Attlee, former Labor leader of Britain, when he accepted an earldom and a seat in the House of Lords. There are a great many similar personal failures among those of lesser prominence, on this Continent as well as elsewhere. The social pioneer's success and glory come from remaining a 'rebel' to the end—a dissenter against the values of the Old Order and, at the same time, a positive proponent of a New Order.

He who must find personal satisfaction in Price System respectabilities, who must keep his retreat bridges intact, and who must protect his progeny

from personal struggle and social ostracism—he who desires to retain his membership in the Cult of Respectability—is not yet ready for a position of trust in the cadre of the New America.

Technocracy Intact

Technocracy is the one organization that has consistently supported a technological design of social operations on the North American Continent. Because of its basis on realities, its integrity, and its consistency of purpose and direction, Technocracy remains with the job, its organization and membership intact, while most of the movements for social reform are gone with the wind.'

Technocracy has a place and a job for those citizens of North America who are ready to take a positive stand and stick it out. But, once you join Technocracy, your status in the Cult of Respectability will be suspect. So, what do you care? The place is cluttered up with respectable people who have nowhere to go. That is one of the worst handicaps under which our society is forced to muddle along. What this Continent needs are more people with a hearty contempt for the ennui and regimentation of respectability, along with some of the rugged fortitude and daring of pioneers—this time, pioneers of a new social order of technological abundance. Are you qualified?

—Techno Critic

Huge Stripping Shovel

A huge stripping shovel—largest mobile land machine ever built—has begun operation at Paradise, Ky., signaling an advance by the resurging coal industry.

This new Bucyrus-Erie shovel is as high as a 20-story building and is said to be capable of removing more than 100,000 cubic yards of material and uncovering more than 14,000 tons of coal each day.

It will make available all the coal needed to supply a 2,500,000 kilowatt power plant now being constructed within walking distance. Its 52 electric motors—ranging from one-quarter to 3,000 horsepower—will consume as much electricity as a city of 15,000 people. The shovel's massive crawlers on which it moves stand as wide as an eight-lane highway and it is longer than a city block.

Perhaps the most surprising fact about the record-size shovel is the simplicity of its operation. One man in a control panel five stories up, controls all movements with just two hand levers and two foot pedals. An elevator carries the operator to his work. Peabody will operate the shovel around the clock using three operators on eight-hour shifts.

Designing and engineering the spectacular-size shovel required so many mathematical computations that Bucyrus-Erie put an electronic computer to work on the job. Manufacturing, too, posed its own peculiar problems because of the size of the various components. The cutting edge of the giant dipper, for example, required the largest foundry pour in the company's history.

—Daily Journal of Commerce

(See full page picture on right.)



PEABODY
COAL COMPANY

B
BUCKYRUS-ERIE COMPANY
E

SOME THINGS TO THINK ABOUT

. President Kennedy reports that eighteen percent of the unemployed workers of the United States are in the ranks of the nation's youth, although they represent only seven percent of the total labor force. He warns that the problem of finding jobs for youth will increase sharply in the next few years, as the World War II 'baby crop' begins to look for jobs. It is now reported that one million young people are looking vainly for jobs, with the worst yet to come. Some two million teenagers will hit the labor market in June of this year. Next year about three million more young people will swell the ranks of people looking for work. By 1965, an unemployment crisis will be upon the country, if the present trends continue, particularly in view of the fact that many persons now working will be unemployed because of technological change, and will be looking for jobs along with the high school graduates and the drop-outs.

. Social disorder is increasing along with unemployment. Crime is reported to be increasing at a rate five times the population growth. In some categories of crime, such as burglary and petit larceny, the rate is six to seven times higher than the increase in the population. Much of the crime in these latter categories is attributable to younger age groups. This has led Technocracy to state that if chiseling is the ideal of the people of this Continent, why not apprentice your youngster to a successful gangster?

. Considering that crime is now a major social activity, and accounts for well over \$20 billion in costs per year to the economy, we might also wonder why the Price System has not arranged for criminals to have lobbyists in Congress. Every other large chiseling operation is represented.

. Probably never in history has a nation taken such pathetic measures to integrate its youth into society. Some 52,000 school districts operate independently of one another, and without any overall program that will locate and develop the talents of the youth on this Continent. There is not so much as a coordinated vocational guidance program to assist in determining what a young person might be trained for, much less a school curriculum that is in accord with the requirements of a

technological age. Youth are in for a rough shuffle at the hands of employers, for they do not have the training that the industrial machine of today demands.

. While a critical problem, such as education, becomes increasingly so owing to lack of any idea on the part of the political administration as to what to do about it, politicians make a political football out of legislative bills to provide personnel and facilities to improve education standards. Meanwhile the Russians are driving ahead with technical education programs which are producing more than three times the number of engineers and scientists that U.S. schools are graduating. The deficiency in this area of social development can prove to be the long range undoing of U.S. technological leadership.

. Dan A. Kimball, president of Aerojet-General Corp. and formerly Secretary of the Navy under Harry Truman, stated, upon assessing rising costs and financing problems in the expensive space industry, 'If a whole new world is being born—and that is just what is happening—it's going to cost a lot of money. It may be that some entirely new system besides money may have to be created to sustain and push ahead all these developments,—just as money had to be invented when barter wasn't adequate for the growing exchange of goods and services many years ago.' From these comments, one might conclude that Kimball is a Technocrat, or at least an advocate of Technocracy's program. Technocracy is the first and only social program to appear on this Continent that foresees the replacement of money with a technological accounting system that will develop balance in the technological system by which we live.

—12247-1



MELONS DESTROYED TO KEEP UP PRICES

California Farmer, --Cantaloup growers recently destroyed 20 per cent of the melons to prevent a surplus.

The California Cantaloup Advisory Board recommended the move and the State Director of Agriculture approved it.

The western San Joaquin Valley melon crop appears to be ripening all at once. Fields to be destroyed must have been in harvest at least 10 days.

TECHNOCRACY IN THE FIELD

The Members of Technocracy apply their efforts in various ways to bring to the attention of all North Americans the significance of the present social trends and the need for a technological solution to the problems which arise out of them. They realize that only through their activities and efforts is the public made aware of Technocracy's Program.



Official Gray Car of Everett, Washington Gray Fleet circulates in downtown Everett silently but effectively telling the public about Technocracy.
—Techphoto by Berge

The Power of Symbolization

Probably one of the most difficult things to do is to break out of the herd of human beings who, on this North American Continent, represent the near ultimate in stylized, conventional behavior. For a society that holds up individualism as an ideal, North Americans are about as stereotyped in their thinking and behavior as any people in the world, if not more so.

The pressure is always on individuals to stay with the herd, no matter where it might be headed. In silly ways, as with hair styles and clothing fashions people try to be different, but seldom in any fundamental way, as in a social outlook. Yet, those

individuals who do have the guts to be different will gain respect of many who do not have what it takes.

Technocrats take a stand based upon the facts concerning trends now taking place on this Continent. They want to attract the attention of persons around them to what they represent. So they paint their cars Technocracy Gray and apply the symbols of Technocracy. In so doing, the Technocrat lets you know he has taken a stand for something. He wants you to know who he is, and that he is available to you for consultation on the problems before this Continent.

—Editorial Board

Psst, Sweetie-Pie, War's Imminent

BY ARTHUR HOPPE

As I was saying yesterday before I was interrupted by Mr. Drew Pearson's head, our national economy is built on war and love. War produces love and love produces a bumper crop of war babies, who stimulate the economy. In 21 years, the crop ripens, falls in love, gets married, and takes its turn stimulating the economy. Which is very stimulating. But there are these long dry periods.

And I saluted Mr. Kennedy for doing his best to fill the gap by producing an annual "bumper crop of war crisis babies." Not personally, good heavens! I mean by his foreign policy—Berlin, Cuba, calling up the reserves, ordering blockades and generally making everybody panicky once a year.

Because when people get panicky, as you know, then * * *. Well, the whole economy benefits eventually. But the question we must now ask ourselves about Mr. Kennedy's bold and daring program to stabilize the economy is: "How long can he keep it up?"

After all, an annual war would be simpler. In the past, a nation could declare war and double its population overnight, win or lose. Well, practically overnight. But nowadays, wars aren't very good for populations. So it was natural that Mr. Kennedy should turn to the war crisis as an economic substitute.

But the problem is we're running out of places in which to have war crises. Look at the records: We've had three crises in Berlin and two in Cuba already. It's getting to be like summer reruns. And I don't think they stimulate anybody.

Obviously then, as any psychologist will tell any economist, we must be conditioned to react with the proper Pavlovian response to an even lesser stimulus. Like, say, the withdrawal of the U.S. Ambassador to Yugoslavia.

"Goodness gracious!" cries the husband on seeing the headlines at the breakfast table. "We've recalled George Kennan for talks, Honey" says his wife, panic in her eyes. "Darling" said he, taking her in his arms. He is a little late to work and in the following fiscal year the Internal Revenue Service is 12 percent over its estimates.

Eventually, of course, we can reduce the economic stimulus to a one-paragraph item back in the psoriasis ads saying the U.S. Consul in Vhtnnng

neglected to respond to a cheery "Good Morning" voiced in Vhtnnngian by a native street sweeper. Mainly because he thought it was a belch. And all over the nation, magnates of the great American diaper pin industry will read it, rub their hands happily and double their production quotas for the following year.

Once so conditioned, we must, of course, guard against indiscriminate uses of the word "war". Such as by a professor of ancient history in a lecture to a coeducational class. As the results would be chaotic. Even if economically beneficial.

But the only grave danger I foresee is that without a constant diet of wars and crises, we may ultimately achieve true world peace and universal love. And, if I understand the foundations of our economic system correctly, that will spell the end of the human race.

(From the San Francisco Chronicle, Jan. 29, 1963)
—Congressional Record

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\$7 MILLION GUINEA PIG

EDGEWOOD, Md.—Scientists at the Army Chemical Center here have tested a new technique for emergency destruction of cash.

The guinea pig? A ton of money valued at \$7 million.

The money consisted partly of worn-out bills and partly of bills containing printing errors.

Purpose of the technique is to deny any enemy the use of American money in the event of an attack, said Maj. Floyd R. Coyne, an Army Finance Corps project officer who witnessed the experiment.

One observer commented: "The only faster way I know of to get rid of money is to let my wife go on a shopping spree." Details of the new technique are secret.

—Cleveland Plain Dealer

Ed. Note:—These boys are missing the point. The real enemy of this continent is money. Now that the equipment is available it shouldn't take long to dispose of money. All we have to do is extend the technique.

Saskatchewan Giant Grows

The few words "harnessing a river, then utilizing the harnessed water" need not necessarily amount to a tremendous job. But when those words apply to the harnessing of the South Saskatchewan River with two huge dams, creating a reservoir 140 miles long, irrigating 500,000 acres of land, and supplying an average annual output of hydro-electric power of 475,000,000 kwh, one can hardly visualize the amount of construction involved, or estimate the total cost.

Back in 1958, an agreement was completed providing that the federal government would create a much desired reservoir by building a main dam on the South Saskatchewan River, and a second large dam in the Qu'Appelle Valley. It was also agreed that the federal government and the province of Saskatchewan would share in the cost of this construction, 75 per cent of the cost being borne by Canada, and the remaining 25 per cent being borne by Saskatchewan, providing the latter portion did not amount to more than \$25 million. The agreement also provided that Saskatchewan would assume full responsibility for, and undertake the construction, operation and maintenance of all the irrigation works required for the conveyance and distribution of water to lands to be irrigated by the reservoir.

To date, over 52 million yd. of earth material have been moved (sufficient for 1,700-mile long standard-grade highway); 85,000 yd. of concrete have been poured (enough to build a 220-mile long, 4-ft. wide 6-in. thick sidewalk); and over 15,000 ft. of tunnelling constructed—amounting to 80 per cent completion of the five river diversion tunnels; and 28 contracts have been awarded valued at \$55,563,000. The estimated cost of the main dam and reservoir is \$96 million, the power plant is expected to be around \$50 million, while cost of irrigation will probably be another \$50 million. The total estimated cost is close to \$200 million.

Situated midway between the south-central Saskatchewan towns of Outlook and Elbow, the South Saskatchewan Dam is slated for completion in 1965. Ranking as one of the largest dams in the world, the project is one of the top construction jobs ever

attempted in Western Canada, and is under the supervision of the Prairie Farm Rehabilitation Administration, a branch of the Federal Department of Agriculture.

So far, the five river diversion tunnels have been the projects on which construction emphasis has been placed. These tunnels involve three major phases of construction, including the downstream portions of the tunnels; the up-stream section, including the installation of high level intake structures; and excavation of the control shafts which extend vertically from the center line of the dam on the embankment to where they intersect with the tunnels.

A "Mole" is being employed in the mining of the tunnels. This machine is power driven and chews its way through the abutment at a rate of 50 to 60 ft. a day, producing a 25-ft. tunnel. The tunnelling is now 80 per cent completed, with over 15,000 ft. of tunnel constructed to date. As the "Mole" processes, the walls are lined with steel reinforcing and concrete 2½-ft. thick, leaving a finished tunnel 20-ft. in diameter.

Work is also underway on the placement of reinforcing steel, construction of forms, and the pouring of concrete for the high-level tunnel intakes and control shaft substructures. Construction of the control shaft substructure is nearly completed with excavation finished on all five shafts. Each shaft is approximately 40 ft. in diameter, and 225 ft. deep. When this work is completed, next step will be the installation of tunnel control gates and gates mechanisms.

Earthmoving operations are mainly centered on Embankment Stage 3, which include the construction of the embankment across Coteau Creek on the extreme west end of the dam to a point where it joins the main river section, as well as the excavation of a portion of the main spillway area now completed. This contract, worth \$8.3 million, has progressed well during the past year, and is now approximately 60 per cent completed.

The recently completed contract for the processing of concrete aggregate required in construction of the river diversion tunnels and spillway, was one of the interesting phases of the project. The

job has involved the processing of 1,600,000 tons of material since work on this contract got underway in 1959.

With due respect for the sidewalk superintendent, PFRA built a pavilion for tourists to view work from a vantage point high up on the east side of the river. The pavilion contains models and displays depicting various phases of the project. Since opening the pavilion late in 1959, well over 200,000 tourists have visited the site.

—Roads and Engineering Construction

Ed. Note: 20 dams of this size could be built for the cost of one year of foreign aid.

MY TWO CENTS WORTH

I see where they have decided the planet Venus is too hot for people to live there. It don't bother me none; but one of my neighbors is kinda disturbed about it. She believes people already live there and some of them have visited the earth in flying saucers, and she thought that would be a good place to go when things got too hot for us here. Now I guess things are even hotter on Venus, ha, ha. Well, I ain't anxious about going to Venus myself, even if it was a good place to go to and I had some way of getting there. This world is plenty good enough for me. So, when Uncle Zeke jokingly asked me a while back what I was giving up for Lent this year, I told him I was giving up my place in line for a trip to Venus.

I guess news like this is quite disappointing to people who believe there are other worlds with creatures on them, when they learn that places like Venus and the Moon can't possibly have anything living on them—no people, no bug-eyed monsters, not even any bugs. I hear the scientists are taking a close look at Mars again to see if anything might be living there. If they don't find nothing on Mars, I guess that about ends all hope of escape for us poor earth people, because they tell us that the next worlds that might possibly have live things on them are so terribly far away nobody can even think of going there, not ever.

So, it looks like the comic books will have to bring Buck Rogers back to earth and have him live a dull life just like everybody else.

—Ima Moron

FARM SURPLUS INVESTMENT TOTALS \$7,742,000,000; LOSS PREDICTED

The Agriculture Department reported today it had \$7,742,000,000 invested in farm-surplus products on December 1, an increase of about \$95,000,000 from a year earlier.

It predicted losses on these commodities when finally disposed of would be \$1,345,000,000.

In other words, the agency figures that every dollar's worth of farm products acquired under its price-support program has an eventual worth of only about 83 cents.

In this same connection, the department reported that its losses in carrying out price-support programs during the first five months of this fiscal year—last July through November—amounted to \$924,000,000 compared with \$787,000,000 in the like period last year.

Much of the surplus acquired by the department sold for less than cost. In addition, storage charges contribute to the losses.

The department also reported that it had paid farmers \$464,000,000 during the July-November period for retiring cropland under the feed-grain surplus-reduction program and \$211,000,000 to wheat farmers for the same purpose.

The cost of storing and handling farm surpluses was put at \$160,000,000 for this five-month period.

—Seattle Times

Ed. Note: Do you suppose maybe that in certain impoverished nations we could name our national sanity is becoming suspect?

CATHOLICS WORRY CANADA PROTESTANTS

LONDON, Ontario, Sept. 15.—(Chicago Tribune)—The largest Protestant denomination in Canada, the United Church has decided to investigate the religious beliefs of immigrants of the last ten years as a ground for complaints that too many Catholics are being let in.

The General Council of the church in session here also passed a resolution yesterday that Canada should admit 10,000 Chinese immigrants from Hong Kong.

Concern that immigration is making Canada predominantly Roman Catholic was expressed earlier in an address by the Rt. Rev. Hugh A. McLeod, outgoing moderator of the United Church, who said that Catholics are a threat to liberty.

Mr. McLeod has been criticized by Catholics, Anglicans and a Rabbi, but some other Protestants are also openly alarmed by Catholic gains in Canada.

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in North America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every state in the U. S. and all provinces in Canada, and in addition there are members in Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic North American—you are welcome in Technocracy.

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NEEDED - A SOCIAL DESTINY

TECHNOCRACY is the only Organization on the Continent of North America whose presentation to the people of this Continent is the same Continent-wide. Multi-political parties can never federate this Continent into a contiguous continent-alism. Multi-political parties cannot inaugurate security and abundance for the people of North America. A house divided against itself eventually must fall. The people of this Continent must develop a Continental consciousness of their social destiny. National direction under multi-political parties is the road to national anarchy. Technocracy indicts all political parties as purveyors of further Continental confusion.

— Our Country, Right or Wrong.

THE NORTHWEST

Technocrat

JULY '63

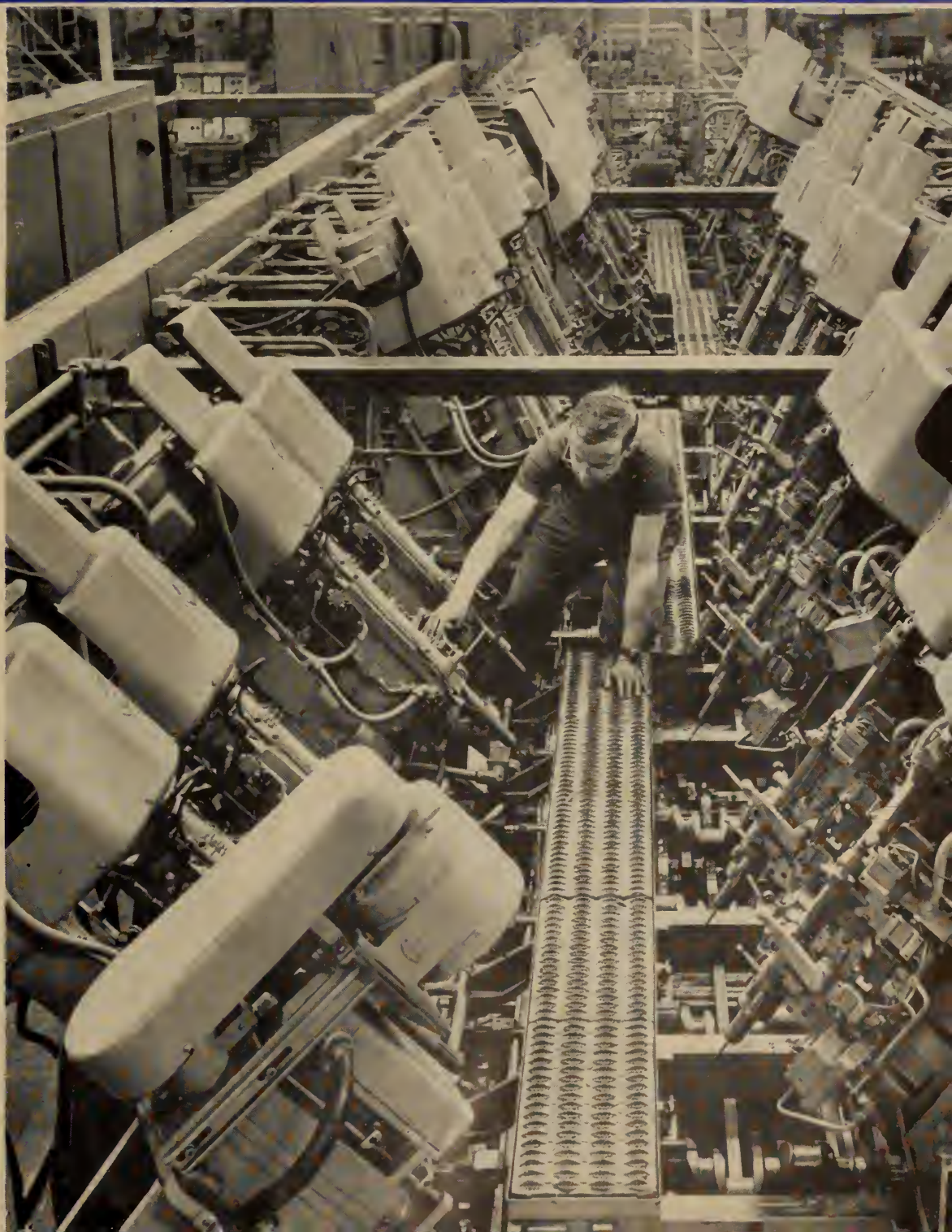
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- Long-range Vision Needed

No. 212, Vol. XXVII



Technocracy Inc.
12247-3
Seattle, Washington





The Power In Our Lives

WHEN people use the word 'power,' they tend to do so in connection with politics or money, for these two things have had a tremendous effect upon how people have behaved throughout recorded history. But a relatively new form of power which has nothing to do with either politics or money is doing far more to shape the lives of people than any social force of the past: this is the power of kilowatt hours and horsepower.

Technocracy's position as a social concept was based from its very inception upon the realization that the use and consumption of energy other than human muscles and animal power on the North American Continent was bringing a vast social change into the lives of North Americans. The power of machines was bringing an abundance to this Continent, and at the same time it was eliminating human sweat and toil. The Price System, which is as old as recorded history, was destined to be replaced by a method of social control that would operate without the use of money. The public, upon hearing of Technocracy's analysis and design for North America, was staggered by it all. After an initial flurry of publicity on Technocracy, the press sought to dismiss the subject with derision. When that tactic didn't work, the press clamped silence upon the mention of Technocracy. The psychology seemed to be, 'If we don't talk about our problems and Technocracy, maybe they will go away.'

But the social situation, as Technocracy stated it from the beginning, is now moving in on the Price System in what appears to be a final showdown. Neither waste, deliberate inefficiency, war, nor gigantic arms programs have been able to forestall the march of power.

There is installed upon this Continent a huge power complex that simply will not be denied a technically competent administration. Political and financial control have become irrelevant—beside the point—in the control and design of the North American industrial machine. The problem boils down to

providing and maintaining a balanced load on this machine, which cannot be done by relying upon the uncertain proposition of selling something to somebody.

Today there is nearly *twelve billion* horsepower of prime movers installed in the U. S. economy, including automobiles. This figures out to approximately seventy-five horsepower for every adult citizen. Based upon the measurement that a healthy individual can produce about 1/20 of a horsepower in an eight hour day, this seventy-five horsepower is equivalent to the strength of 1,500 human slaves. What do you tell 1,500 slaves to do? How do you control them? This power control problem represents the most unique and exacting one which has ever confronted the human species.

And so, what is Technocracy, in essence? Technocracy is an energy control technique which is designed to maintain balance in the internal operations of the technology of this Continent; and equally important, it is a social concept that supplies a set of objectives to permit North Americans to design and build a stable, dynamic civilization that will endure for a long time. Compared to past civilizations of man, North America has a bare start. The old Egyptian civilization had a continuous recorded history of 4,206 years. This gives us something to shoot at for a start.

—Editorial Board

COVER PICTURE

High quality mass production is possible with special purpose tools such as this which automatically drills the entire oil system in an automobile crankshaft in one continuous operation. The 52-foot long transfer-type machine is located at Ford Motor Company's engine plant in Lima, Ohio.

—Photo Courtesy Ford Motor Co.

JULY 1963

OF WHAT USE IS HISTORY?

A great deal of history is devoted to an account of the lives and administrations of political rulers. The primary functions of politics have been to keep the subjects 'pacified' with restrictive regulations, to collect taxes from them, to promote wars, and to provide glory as well as luxurious and ostentatious living for the chief figureheads of the ruling clique.

ONE OF THE FAVORITE criticisms of Russian education, currently being voiced by American 'experts' on education, is that the Soviet schools are deficient in the 'humanities,' among them the study of history. These same 'experts' do admit that Russia is training more people in science and engineering than the United States and that their training is every bit as good if not better than its counterpart in this country. But, in an effort to offset the significance of this imbalance in the field of technical knowledge, it is pointed out that America leads Russia in the number of divinity schools and in departments devoted to the 'humanities.' Thus, we must assume, Americans are better trained for philosophical speculation and for idolatry of that which is dead and gone.

Since special emphasis, in these criticisms, is placed on the importance of history in the curriculum of American education, let us consider for a moment just what relevance a study of it may have in preparing North American youth for meeting the problems of their Continent, now and in the foreseeable future. What information can we gather from history that will be of direct benefit to us in living out our lives, here and now?

Of what application would be a knowledge of ancient mythology, for example, be it the mythology of China, India, the Mediterranean, or north Europe? Today, these and other ancient mythologies are regarded as pure hoaxes, having been perpetrated upon the gullible populations as a means of gaining control over them and extracting material substance from them. The one lesson that might

be gained from such a study is seldom mentioned in our schools and never emphasized; namely, that populations of all areas and all ages are subject to mass hoaxing through the propagation and official sanction of unverifiable myths. Aside from this one lesson, a study of mythology can have only recreational significance to modern man—to the few who can be entertained by a perusal of it.

Of what application would be the knowledge of ancient military campaigns and battles? For the most part, they are a study in human degradation. One important lesson that might be gleaned from the history of warfare is that any society which prepares for greatness through a policy of military conquests quickly destroys the cream of its fighting manhood and soon succumbs to the alien elements which it must recruit for replacements. As a consequence of this principle, in terms of the ethnical components of their populations at the 'height' of their 'glory,' Egypt is no longer Egyptian, Greece is no longer Greek, Italy is no longer Roman, Germany is no longer Teutonic. The same can be said of other areas of the earth in greater or lesser degree.

The strategy and tactics of past military campaigns can be of little service to us, now or for the future. The potential nature of warfare has changed too much for the lessons of the past to be applied in the 'next war.' If there is to be another major war, both the strategic and tactical considerations must be drastically revised from anything that has proven effective in the past, even as late as World War II. Military planning for the future

cannot be based on precedent. What lessons, for instance, can we learn and apply from the campaigns of Alexander the Great, of Hannibal, of Julius Caesar, of Atilla the Hun, of Genghis Khan, of the Crusaders, of Napoleon, of fascist Germany, or of fascist Japan? A clever strategist might be able to gain some significant information, but it would be too subtle for most scholars of military history to detect.

History furnishes no precedent for a thermonuclear war; and all other types of warfare portrayed by history are of scant relevance to the strategy required by modern nations. Prior to this time, for example, Rome has always been a prime object of military conquest; but all past approaches to Rome have been long and difficult. Now Rome is in the 'sights' of atomic rockets and could be destroyed in a matter of minutes. Historical precedents have suddenly become passe.

The purposes for which wars were fought in the past are now outdated insofar as major nations are concerned. Wars have been fought for loot,

slaves, taxes, territory, religion, and the 'glory' of the conquerors. But, today, what gain for the United States could justify a war in which at least half the population would perish and the cities be laid in ruins? Yet, many people in responsible places are speaking blithely of war, as if it were a sacred duty.

When we turn to the history of medicine, we are particularly impressed with the falsity, at least the obsolescence, of all that history provides us. Aboriginal and folk medicine is of scant use to the modern physician; most of it was based on superstition and faith in 'miracles.' It has been scarcely a century since the nature of infectious diseases was discovered. All prevailing theories about diseases before that time, then became recognized as useless and misleading. They can be of only academic interest now. Why distract modern medical students with them? At best, a few examples of medical error may be used to illustrate that ancient 'knowledge' is, for the most part, worthless.

Medicine — New Approach

Within the past quarter century, a whole new perspective concerning health and healing has been gained—though not, as yet, generally applied. The researchers in medicine today are making their own history; and, in doing so, they must discard most of what was 'known' in the past. Most medicine of the past was concerned with healing the sick and alleviating distress. For the future a whole new approach is needed—the maintenance of health through the PREVENTION of sickness and debility.

What we need in the Health Sequence is more research in the science and technology of health and less searching through the records of history for past treatments and remedies. We need a Health Sequence with the facilities and personnel to administer effective health service to the entire population without cost to the individuals. That is a design for the future, not a pattern from the past.

When we review the 'humanities,' we discover that history has had little impact upon them. Philosophy, religion, art, and conduct still follow ancient patterns, which may ebb and flow with time and occasionally scintillate, but which progress hardly at all. Philosophy is essentially a subjective intellectual adjustment to reality. This may vary from time to time, place to place, and person to person—as philosophers exchange ideas and as fads in phil-

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osophical thinking change. The most notable progress in philosophy is that which has had to be made to conform with advancements in science and technology. Because of these advancements, many of the old Ideas and Truths of philosophy have had to be discarded and new ones created.

Beliefs and Faith

Religion is much the same as philosophy, but it takes on the aspect of a 'quest for the good life' and usually includes beliefs and faith.

A great deal of history is devoted to an account of the lives and administrations of political rulers. On the whole, political government has a sordid history, from that of small autocratic barbarian tribes to that of huge complex empires. The primary functions of politics have been to keep the subjects 'pacified' with restrictive regulations, to collect taxes from them, to promote wars, and to provide glory as well as luxurious and ostentatious living for the chief figureheads of the ruling clique.

What can the youth learn, which is of practical use to it, from reading a recitation of the lives, the foibles, the debaucheries, the deeds of historical monarchs and other political personages? Such stories—half fable, half truth—reveal for the most part the incompetence of political rulers to deal with social problems and their reluctance to promote the welfare of their subjects. The lessons to be learned are mostly negative—lessons of what should be avoided rather than contemplated. The reading of recitations about the lives of prominent people in history may provide vicarious satisfactions for one's vanities, sensualities, or sadistic impulses; but it provides very little in the way of a positive program for the future. If it proves anything to the reader, it is that he, given the same opportunity to exploit his subjective interests at the expense of the society at large, could do as well if not better than most monarchs of history.

Another sordid facet of history is the record of commercial enterprise. The incentives of commerce, from those of the small marketplace merchant to the big industrial tycoon, have motivated people to seek economic advantage for themselves at the expense of their fellowmen. No form of human suffering, privation, or degradation resulting from business exploitation has been severe enough to deter the seekers after unearned profits. Yet the more successful entrepreneurs have been glorified by history as noblemen, captains of industry, benefactors of mankind.

The most significant lesson to be learned from the history of business enterprise is that the human race would have had a much easier existence if business had never been permitted to develop as an economic pattern. If the student of history can learn that business enterprise must be abolished from all future social operations, then, perhaps, a review of the economic history of past societies will serve a useful purpose.

All past economies have been low-energy scarcity economies. The future economy of the North American Continent, barring chaos, will be an economy of abundance. The chronicles of the past offer no pattern for the development and administration of that kind of economy. The values, the expediences, and the theories of scarcity will be of no use. Hence, the planning for the future must be without reference to anything that has gone before—it must be a brand new design. In the field of economics, the old philosophies of value must be supplanted by technological concepts of function and efficiency.

Virtually all the progress that the human race has made can be classified as science, technology, and engineering; that is, progress in the accumulation of objective knowledge and its application. This progress was facilitated and enhanced by the invention of recording techniques and the art of accurate description.

Slow Progress

Up until the last 300 years, progress was painfully slow as seen from the perspective of modern times. On the average it consisted of no more than the addition of one bit of new knowledge and the invention of one minor technique or device per generation. It was a rare generation that saw a major breakthrough of discovery—that produced an Archimedes, a Leonardo di Vinci, or an Isaac Newton.

Now, in the technical fields, the ancient formulas have all been supplanted by much improved techniques. And the old knowledge has been reappraised, modified, and greatly enlarged upon. What is important to the societies of today is the utilization of the most recent and most advanced knowledge available in the handling of our problems. What the ancients did, and how they did it, may be a matter of curiosity to those who happen to be fascinated by such information; but it does not have a practical place in our present scheme of things. A great part of what we use today has no

history, being the product of a generation that is still living.

Yet, most of the things in ordinary use are obsolescent as viewed from the standpoint of the most advanced designs and techniques known to man. This lag is due to factors outside of the fields of science and technology, such as financial manipulation and title rights.

An interesting side of social advancement, if it were available in the historical records, would be the struggles of those few individuals who conceived new ideas and tried to present them to their contemporaries. It is evident that most such people struggled futilely and died (perhaps prematurely in many instances) without honor or social recognition; and the records of their lives have perished. In the main, it is just as well that they were so treated; for, no doubt, the majority of those with ideas were probably philosophers or self-proclaimed messiahs competing (or seeking to compete) with the prevailing philosophies of the time.

But some of the 'renegades' were inventors, discoverers, and inquirers into the ways of nature. Traces of their works remain even though the authors of them have been ignored and forgotten. Theirs was the type of knowledge that laid the foundations for human progress in the way of doing things; for, many of their innovations were developed in answer to human problems.

Systematic Progress

The historical record of the accumulation of such knowledge would be of some general interest. It would be relevant to what has transpired since. But, history, being what it has been in the classical sense, gives us little recorded information of the ancient discoveries; they can be pieced together from only fragments and conjectures. Most early discoveries came about piecemeal, sporadically, and locally; their seepage through society was extremely slow. It was not until the formulation of the scientific method, less than four centuries ago, that any systematic progress in man's knowledge of nature was possible.

Without exception, the facet of history that has had the greatest effect upon mankind was the introduction of science—'the methodology of the determination of the most probable.' Science had its early beginnings in the Sixteenth Century, when it appeared to the brighter intellects of that time as an exciting challenge. But, like all new ideas, science ran head-on into the tyrannical opposition of established ecclesiastical authority; and it had

to be pursued clandestinely, not without martyrs.

For the first time, with the advent of science, a method of seeking knowledge had been devised which could get results—results that worked. As a consequence, new ideas and concepts regarding nature came into being which were so obviously correct that they could not be suppressed by the powers of the status quo. Science attracted the inquiring minds of both the rich and the poor. It penetrated into many fields of interest; and its findings spread across all literate domains. The rise and growth of science, thus, far outranks everything else as the greatest event in history.

Store of Facts

The facts of science are subject to very little modification from century to century. Their definitions and descriptions may be subject to refinement as more precise measurements and keener observations are applied to the phenomena involved. In the meantime, new facts are adding constantly to the store of scientific knowledge. Out of this store of knowledge has come an acceleration of human progress that threatens to get out of hand; i.e., out of the hands of the Authoritarians. To keep up with the present explosive effect of science requires a perspective and a social concept that have no historical antecedents; these must be gestated in the present.

It remains yet to be seen whether or not the Russians and the Chinese are capable of producing concepts which are adequate to carry them into the future. If they try to find them in history, they are lost—even if they consult the chronicles of 1848, et seq. The chance that such a concept will arise out of Western Europe in the near future is dim.

So far, only North America has gestated a perspective and social concept that can serve as a long-term guide into the future. Out of years of study, work, and discussion, correctly evaluated by strategic genius, came the design of Technocracy—a governance of skill, a social technology based on science. In its early stages, over forty years ago, Technocracy came into being as an answer to the growing problems of a Continental society. It was so fundamentally correct that, with very little updating and modification, it is still the most suitable design for the future.

In the light of Technocracy's design for this Continent, it is obvious that all the social programs of the past are irrelevant, incompetent, and immaterial. Monarchies, fascisms, and theocracies on the right; republics, socialisms, and communisms on

the left; none are adequate to meet the social problems of the future. Even in the present, they are only stumblebum expediciencies. History is of little use in the quest for an effective governance of a Continental social mechanism.

What then, in summary, can we regard as important in history insofar as the general education of the youth is concerned?

First, let us dispose of that part which can readily be omitted or de-emphasized. The biographical writeups of most rulers and other heroes, along with a record of their deeds and misdeeds, could serve only as horrible examples of human conduct. The mythologies, astrologies, and philosophies of the past are of no use whatsoever in the present; their study can very well be left to specialists in the field of historical inconsequentialia. Likewise, the general cultural patterns of the ancients and of the more recent primitives—the study of which is usually called ‘anthropology’—is of more academic than practical value.

The great bulk of historical information is a study in error, futility, chicanery, and degradation; only a small part is heroic and inspiring. Such information may possibly be of some significance to a social strategist—but mostly as examples of what NOT to do. In preparing for the future of society on this Continent, the more of history that can be ignored or discarded, the better the chance for making the correct design for the conditions ahead—a new, clean pattern which conforms to functional need rather than to tradition.

There are some things in the records of history that are of passing interest and of casual use. Among these, we might mention art forms—pictorial, sculptural, dramatic, literary, structural, social, etc. These are the subjective efflorescences of a functional social mechanism, adding beauty and charm to that which might otherwise be austere and drab. Being subjective, art is controversial, varying with individual taste, the public mood, and social tradition. When art is an adjunct to function or a pleasing (at least ‘harmless’) ornamentation of that which is functional, it has a significant place in the social culture. It is when art forms absorb a disproportionate share of the social effort, resources, and attention, or when they ‘mess up’ the functional processes, that they become a social deficit. For example, the pyramids of Egypt and Yucatan, the cathedrals of Europe and southeast Asia, the edifices of India, the commercial advertising signs of America—these certainly have not

been worth the social cost; and it is the duty of history to point that out.

On the more positive side, the history of technological progress is of general interest. It is well for the general student to understand how living is now different from what it used to be; that he is living in an entirely different world, technologically, than even his recent ancestors. Thus, the youth will realize that it has been endowed with a heritage that was denied to past generations, and that this heritage came from science and technology, not from philosophy or ethics.

The history of technology is a study in theoretical and empirical experimentation. It reveals the ways in which errors are detected and successes achieved. A survey of the basic inventions and discoveries, particularly those which reveal principles on which later techniques are based, provides a progressive background for the complex mechanics of today.

More fundamentally, a history of the rise and achievements of science is essential to the general education of the youth. It is a study of the valiant struggles of the inquiring mind and of human courage over adversity—adversity in the form of uncharted nature, of technological limitations, of social inertia, of autocratic reaction, and of the virulence of those whose superstitions were being questioned and challenged. More recently, the history of science deals mainly with struggles to penetrate the ‘secrets’ of nature; since, for the most part, the struggle against overt superstition has been overcome, although not as yet won.

For the youth of today, a thorough study of the geological history of the earth is of high priority importance as a prelude to the study of geographical history and exploration. The origin, occurrence, and geographical location of essential mineral and biological resources are of prime importance to every student in our modern society; for, it is upon these that our civilization is built.

The basic ingredients of a civilization are: area, people, soil, water, minerals, energy, and favorable climate. The state of the civilization depends upon the technological development of the area, the type of social administration, and the density of the population. These are the factors in society which courses in history should emphasize if it is to be of significant service to the youth. These are the factors in history with which Technocracy is concerned in its Study Course.

—Wilton Ivie

(Reprinted from *The Northwest Technocrat*, October 1959)



This is an artist's conception of John Day Dam, designed and being constructed under the supervision of the U.S. Army Engineer District, Walla Walla, Corps of Engineers, at river mile 215.6 on the Columbia River. John Day Dam will be a straight line axis dam with over-all crest length of approximately 5,900 feet. Its normal height from headwater to tailwater will be 105 feet.

—Photo Courtesy of Bonneville Power Administration

John Day Lock and Dam Takes Form

John Day Lock and Dam is located at river mile 215.6 on the Columbia River, a little over two miles downstream from the confluence of the John Day and Columbia Rivers. The north or Washington shore of the dam site is reached by turning upstream on U. S. Highway 97 at Maryhill and proceeding east for about four miles. On the Oregon shore, the dam site is 27 miles upstream from The Dalles, Oregon, on U. S. Highway 30.

John Day Lock and Dam takes its name from the John Day River which flows into the Columbia approximately two miles above the dam site. In turn, the John Day River is named from an early-day trapper and hunter who was a member of the John Jacob Astor, Pacific Fur Expedition of 1810. Though John Day's only claim to fame is that he was with the early party of Americans that attempted a permanent settlement in Oregon, a river, a city, and an entire region of the State of Oregon bears his name.

John Day Lock and Dam was authorized by the

81st Congress under the Flood Control Act of 1950. Originally the dam's reservoir was planned to provide 2,000,000 acre feet of flood storage with a fluctuation of 37 feet in pool elevation. Later this requirement was reduced to 500,000 acre-feet for flood storage, with the pool fluctuation to be between 257 feet minimum and 268 feet maximum.

Designed and being constructed under the supervision of the U.S. Army Engineer District, Walla Walla, Corps of Engineers, John Day Lock and Dam carries an initial construction cost estimate of \$423,000,000. Under its multipurpose design it will include benefits for navigation, hydroelectric power, flood control, irrigation and recreation. John Day will be the only dam on the Lower Columbia to include flood control benefits under its multipurpose scope. In design, the John Day Reservoir, to be known as Lake Umatilla, will provide a half-million acre-feet of flood storage. In addition, the John Day Reservoir will eliminate the last fast-water stretch on the Columbia River and will com-

plete the slack-water navigation pathway from tidewater 328 miles upstream to the head of the McNary Dam Reservoir.

Navigation lock specifications call for a net clear length of 675 feet and an 86-foot clear width. These are the standard measurements incorporated in the design and construction of locks at The Dalles, McNary, Ice Harbor and the three remaining upstream dams on the Snake River. The minimum water depth over the lock sills will be 15 feet, with the normal upper water surface level in the chamber at elevation 265. The upstream or reservoir gate will be of submergible type, with an effective height of 27 feet. Downstream the gate will be of lift type, with a height of 114 feet. During the first step construction period to be carried on behind the north shore cofferdam, river navigation will utilize the open channel along the Oregon shore of the Columbia. In order to utilize the John Day Lock during the second construction stage or south shore phase of the construction work, a temporary upstream channel will be excavated to permit use of the navigation lock in by-passing the work area. This excavated channel will be 150 to 300 feet wide and will be of sufficient depth to make utilization of the lock possible until creation of the John Day pool with its deep water reservoir. Downstream a permanent channel 250 feet wide with bottom at elevation 139 will also be excavated.

Adjoining the navigation lock will be a 1,600-foot north shore abutment embankment of rock fill, with impervious core, to be built to elevation 286 with a crest width of 30 feet. Availability of a large quantity of gravel within a 1,000-foot haul to supplement rock from lock and dam excavation, makes this type of abutment construction economically inviting. Between the navigation lock and the spillway on the stream side will be a concrete nonoverflow section with a crest width of 32 feet.

The powerhouse will have an over-all length of 1,921 feet and a width of 243 feet. Turbines will be Kaplan, six-blade type, spaced at 87 feet and turning 92.3 revolutions per minute. Each turbine will develop a rating horsepower of 171,100.

The generators will have a name-plate rating of 135,000 kilowatts each, with an overload capacity of up to an additional 15 percent. Present plans at John Day call for the initial installation of 10 units with an optional installation of an additional two, and the completion of the remaining 8 or 10 skeleton units for an ultimate total of 20 units. The initial plant capacity with 10 units will be 1,350,000 kilowatts, with 15 percent overload potential to

provide 1,552,500 kilowatts. With the ultimate installation of 20 units, John Day's powerhouse capacity will be 2,700,000 kilowatts, with a potential overload capacity of well over 3,105,000 kilowatts. This ultimate overload capacity will be greater than that of the present output of Grand Coulee Dam upstream.

In its installation, the powerhouse will also contain an assembly bay and a station service bay complete with superstructure. This station service bay will be about 236 feet wide and the assembly bay 208 feet wide. Each skeleton bay will be 87 feet long.

The John Day powerhouse intake structure will be constructed monolithically with the powerhouse substructure and will provide space for intake water passages and trash sluice channel. The intake deck will provide space for operation on an intake gantry crane and rails for transportation of power transformers. Water passages for each unit will be divided into three openings, each 20 feet wide, equipped with closing gates. An ice and trash sluice channel 16-feet wide will also be provided in the intake structure. Discharge into the sluiceway will be controlled by adjustable weirs. Lightning arresters, disconnecting switches, high voltage bus and associated equipment will be located on the roof of the powerhouse superstructure.

The station service generators will be located in the station service bay. Administration offices and clerical space will be located in a building on the intake deck. The assembly bay floor will be ample to assemble and erect one turbine runner at a time. Also on this floor will be a visitors' gallery with public restroom facilities.

The normal construction period for John Day from start of the first step cofferdam to rise of the reservoir pool is estimated to be seven years, nine months. Elapsed time to generation of power would require two additional months.

The 76.4 mile long reservoir to be created by John Day Lock and Dam and to be known as Lake Umatilla, will extend from the dam site upstream to McNary Dam. Numerous towns and port sites will be relocated or established within the reservoir, including such relocated towns as Arlington, Roosevelt and Boardman. Boat launching sites will be provided on both the Oregon and Washington shore line and boat havens with protective harbor and mooring spots are being planned. U. S. Highway No. 30 will skirt Lake Umatilla for most of its entire length on the Oregon shore, and on the Washington shore, State Highway

No. 8 connecting Maryhill with Plymouth, Washington, is scheduled for improvement.

John Day Lock and Dam is scheduled for power on the line early in June 1967. The completed John Day Dam will inundate the present navigation hazards at Squalley Hook, John Day Lower, Middle and Upper Rapids, and Indian Rapids.

—Bonneville Power Administration

(Editorial Comment.)

It is regrettable that in working out an agreement for control of the dam, the private utilities will get the revenue-producing portion of the dam for the next fifty years; the Government will have control of the non-revenue portion—the fish-ladders, the locks and the flood control. Here once again the Government foots the bill for private enterprise.

Technocracy salutes the engineers and technologists who designed and helped build the John Day Dam on the Columbia River. However, Technocracy's proposal for a Continental Hydrology dwarfs this effort to almost nothing. The specifications for this continent-wide water transportation, power generation and power transmission grid have been available for nearly thirty years. In the Thirties it was necessary that we begin this construction to preserve our fossil fuels, our soil, water and timber resources. In the Sixties after nearly thirty years of wanton waste and destruction it has become a matter of survival for the people of the Continent to install this design. Small piecemeal efforts on the part of political leaders and private enterprise, however well-designed, will not do the job.

HEALTH NOTE

There are many jokes about doctors 'burying their mistakes' and even reputable physicians suggest that we run to the doctor too often.

Maybe the jokes and the physicians are both right, for one of the results of the strike by Saskatchewan doctors was that there were fewer hospital cases and fewer deaths in that province.

As *The New York Times* put it in a special dispatch telling of the shortage of medical care:

'However, the hospital load has been abnormally low. And, surprisingly, the death rate has fallen.'

—The Railway Clerk

—Doesn't speak too well for the hospitals.

CRIME DECLARED MAJOR INDUSTRY

This country soon will be 'perilously close to clandestine rule' by the underworld unless the public makes a major crime-fighting effort, Sen. John L. McClellan, who has conducted some penetrating investigations in recent years, warns in a new book.

McClellan asserts that crime today in the United States is a major industry run by racketeers employing public relations men, high-priced lawyers and board meetings.

The leaders of the criminal syndicates pose behind the facade of respectable businesses, but they have their fingers in the control of gambling, prostitution, drugs, labor racketeering and other underworld activities. They control by business methods, not necessarily by gunfire.

Vigorous law enforcement and court prosecution can do much to break up these syndicates, but McClellan points out that the condition will continue to exist and grow on the cynical philosophy of 'every man has his price,' until there is a resurgence of old fashioned morality.'

'Apathy must go,' says McClellan. 'It needs to be replaced by the outraged righteousness of a people who rose to greatness in this world through the spiritual values that their forefathers wrote into the Declaration of Independence and the Constitution of the United States. Let us be thoroughly frank about it—there is no better or surer way to stop the advance of crime into every structure of our society.'

McClellan, as a first-hand observer of the workings of major crime in this country, is not alone in his deep concern over the inroads of organized racketeering into the 'respectable' fabric of our society—labor racketeers 'elected' by rank and file, businessmen with known underworld connections sitting in places of community honor, crooked politicians who somehow manage to be re-elected.

If it is true that 'every man has his price,' and the philosophy of materialism, 'I'm getting mine while the getting's good,' continues to grow, then criminal control in American life will continue to grow.

It is unthinkable that the vast majority of American people will allow this to happen. But it can happen, not through outright assent but through a default of responsibilities.

—Oregon Journal

Adam's Rib -- A Changing Status

Technocracy wonders to what extent the female is conscious of her potential for influencing the course of future events. Technocracy contends that the potential is enormous, and it can be positive or negative, depending upon the degree of her willingness to come to grips with social issues emanating from technological change.

THERE is a swelling stream of books, articles and reports from conferences and symposiums on the changing status of women in the United States which reflect a questioning of the 'femininity' image of American women carefully painted and widely publicized by propaganda forces of the press and television. A book currently on the market, challenging the 'femininity' propaganda to the effect that the woman's place is in the home, and that her sole and sacred duty is to have babies and tend to the needs of the family, is Betty Friedan's *The Feminine Mystique*. The University of California Medical Center at San Francisco held a three day symposium in January of this year on 'The Potential of Woman' during which a number of things from the physiology and psychology of women to their movement toward equality with the male sex were discussed. Technocracy points out, however, that these and other treatises on the subject of the changing female status in North American culture are superficial and skirt the real issue of a massive social change now in progress on this Continent. The changing status of women is symbolic of this social change. The spokesmen for women and those who are analyzing their changing status have not yet pointed out this fact of social change and its broad implications. But certain trends in the social field will compel a more comprehensive examination of the whole problem of living on this Continent, perhaps sooner than we might think.

Among other things, the family unit—one of the oldest institutions of the human race—is being transformed at a rapid rate. Based upon current trends in the U. S., there will be about 1,500,000 marriages in the next twelve months. But in the same twelve months there will be nearly 400,000 divorces. Where one out of twelve couples got divorces fifty years ago, now one out of four couples is winding up in the divorce courts, which represents a 300 percent increase in the divorce rate. These courts are granting an average of two divorces per minute while in operation. In addition, it is to be expected that some 200,000 marriage unions will be informally dissolved via the 'missing

persons' route. The spouse simply leaves the scene for one reason or another. What is causing this rather dramatic trend? There may be all sorts of personal reasons for divorce. But they are not the concern of this discussion. Neither, for that matter, is divorce itself a concern from a moralistic standpoint. Rather, the intent is to analyze the broader picture of human relations in a changing environment on this Continent as an index to how the human species got where it is and where it appears to be going.

Marriage is an invention of human beings. William Graham Sumner, in his *Folkways*, defines marriage as a contract between the male and the female to carry out cooperatively the struggle for existence and the reproduction of the species. The key word, of course, is 'struggle,' which probably developed among human beings in prehistoric times arising from changing conditions that affected them adversely.

There is every reason to think that very early humans once lived amidst a lushness supplied by nature. Early man had no fire, no tools and no means of transporting himself, save on his own legs. He lived with other animals, and was probably a picker of berries, fruits and other vegetation that would provide him with food. His main problem doubtless was to protect himself from other animals for which he was natural prey. Had there not been a sufficiency of food to nurture early man, he could not have survived at all, for he was no competition for other animals, except for the smaller ones. Under these conditions, the male and female probably existed on a fairly equal footing. The female could, as do other animals, forage for herself.

The site of the first significant human development is commonly thought to be a once lush valley now covered by the Mediterranean Sea, which may have been inundated in prehistoric times by a breakthrough of ocean water. H. G. Wells presents this theory as a strong possibility in *The Outline Of History*. In any event, due to a combination of causes such as climatic change, other changes of environmental conditions and an increase in the

number of human beings, man was driven from an environment of abundance into an environment that was hostile to him—one which imposed conditions of scarcity upon him.

Female Becomes Subservient

The female, under conditions of scarcity, was forced to accept a dependence upon the male for two reasons: (1) she bears and cares for the offspring; and (2) she lacked the degree of brute strength necessary to down and kill other animals that man required for food when vegetation ceased to support him. These factors compelled the female to pay the price of having to become subservient to the male in return for food and protection from the male for herself and her offspring; and thus, long before history recorded anything, was established the unnatural pattern of subservience of one half of the species of humans to the other. The female, in a negative sense, through her dependency upon the male, gave the male a role to play other than to impregnate her—which was hardly an accomplishment that called for brains and initiative.

Doubtless, conditions of scarcity compelled the human species to develop its brains more quickly than might have been the case with continuing comparatively soft living. A new set of conditions forced humans to change their mode of living or go the way of the dinosaur. Having the brain power, the hands to fashion tools and the ability to speak and communicate ideas, man moved to adjust to his changing conditions. While the raw force of circumstances nudged man on a new path, the evidence is overwhelming that his intellect really began to develop only when he could be relieved of the constant fight for food and other things he needed. It was under conditions of abundance and relative security—at least for a select few—that man began to gather, record and apply knowledge. When humans organized themselves sufficiently to domesticate plants and animals, and thus to ensure a fairly dependable food supply, civilization took form.

In the tens of thousands of years that were required for man to organize himself, the female did not fare too well. She was, in effect, the first slave of the human race.

The organization and development of the early Egyptian civilization, and later the Greek and Roman civilizations, brought a flowering of knowledge which was to help form the foundation for the present technological society of North America,

for it was in these early civilizations that thought began to develop into a method which we today call science. These early civilizations were much more enlightened toward the status of the female than what was to follow in the form of the early Christian era. The first recorded recognition of the interests of the female is found in Hammurabi's Code enunciated some 3,900 years ago by the Babylonian ruler, Hammurabi. Babylonia could afford, in its material prosperity during Hammurabi's time, to accord to women a status equal to that of men within their respective social classes. (This business of being able to 'afford' human freedom has vastly more to do with getting freedom than does enlightenment, as one can perceive in a study of history.)

The pattern set by Hammurabi concerning the status of women—excluding slaves, of course—persisted into the early Greek and Roman cultures, as pointed out by archaeologist Dr. Charles Seltman in *Women In Antiquity*. He contends that the female of Sparta lived a life superior to women anywhere in the world up to the present time, owing to the equality and balance of responsibility between the male and female. He attributes this status to the de-emphasis of ownership concepts among the Spartans, which applied to both property and offspring. Likewise, women in old Rome fared better than they did later with the onset of Christian ideology.

With the decline and fall of the old Roman civilization, a great vacuum of organized social control pervaded all of Europe, which exposed it to the ravages of invasion by the Mongols, among others, and which saw it degenerate into a collection of vicious little baronies. The efforts of Charlemagne, the Frank, to fill this vacuum with a new military consolidation lasted only about as long as he did, but he laid the foundation of the Holy Roman Empire. In lieu of armies, a different concept of social control—thought control—was being propagated by Roman Catholic clerics. This method of social control sought to transcend conventional politics, and to impose its moralistic views upon western civilization, which it did with considerable success for a while. With this success, some 2,300 years of somewhat enlightened consideration of the female came to an end.

Women In Western Culture

The economic scarcity that existed at this time was intensified by the disorganization of western civilization. The moralism of Christian doctrine combined with poverty to force upon the female a

severe decline in her status. Eve was responsible for the downfall of Adam, according to the story; and there was a serious question for some time among Church authorities as to whether or not she even had a 'soul.' For the hundreds of years since, the female has carried the 'guilt' for the downfall of mankind, which no doubt helped to justify the decline of her status into little more than abject slavery to the male.

The gradual consolidation of baronies into monarchies, and finally national states in Europe, was accompanied by the expansion of mercantilism and the development of crafts and trades. Scientific knowledge that had been accumulated for many centuries came into use. The need for goods and services was increasing with an increasing population, which led directly to the Industrial Revolution, occurring first in England in the latter 18th century. A demand for factory labor—as gruelling and inhumane as it often was to begin with — brought the female out of the home and into industry. This revolution—the only one that ever really meant anything to human beings — was set in motion by the application of mechanical power in the form of the steam engine to perform work.

Less than half a century after James Watt's double-acting steam engine began to furnish power to do work in the mines and mills of England, industrialization came to New England. In and around Lowell, Massachusetts, textile factories sprang up, and women in large numbers entered these factories. Employers, then as today, could hire women more cheaply than men. Female employment in this early industry was estimated as high as one-third of total factory employment, and it was comprised mostly of young, unmarried women. A job in one of the textile factory sweatshops was regarded by the female and society as merely a stopgap measure until a suitable male could be found to assume her support.

Rise of The Female

This 'temporary employment' outlook on working women influenced the trend of women toward becoming a permanent part of the labor force of the U. S., i.e., their 'temporary' entrance into the labor market tended to become more permanent as their numbers increased. By the time of the Civil War, women employees were somehow represented in nearly all industries. During this period, women were also moving west with their men, and were playing a strong role in the work-a-day world out-

side the home that historically had been the domain of the male.

By 1900 there were more than five million women in the labor force. The 'temporary' aspect of female employment had disappeared. World War I put the clincher on the trend of the female to become a permanent part of the labor force, when the demand for her labor brought her out of the home by the tens of thousands. All doubt as to the permanency of the female in the labor market was removed by World War II, during which her numbers in employment swelled by millions.

Census Bureau reports for 1961 show that there are now more than twenty-four million women in the labor market, of whom twelve million are either the partial or sole support of their families. In the past sixty years, female employment has increased nearly five times, while the population of the U. S. has increased only a little more than two-and-one half times.

The female's purchasing power, exclusive of her control of family pursestrings, is estimated at \$50 billion per year. In addition, she controls an estimated twenty percent of national investments. Because she tends to live longer than the male, financial wealth is tending to gravitate into her hands. There has been a progressive change in the male-female population, particularly noticeable since 1950, until now there are three million more females than males in the U. S. population. Technocracy points out that this poses an interesting problem for Christian monogamy and the sanctity of matrimony.

Error of Feminine Outlook

The female may erroneously conclude that the realization of her new and growing independence lies in accumulating money and certificates of ownership. Technocracy informs her that her arrival at independence is the result of swiftly moving technological change, the prime force in which is the phenomenal growth of power—the power of electrical energy and of internal combustion engines. It is this factor of power that has released her from domestic drudgery, has given her mobility, has lightened human toil, and has changed the nature of industry so that she could get out of the four walls of her home and into the stream of the things that comprise modern living. Power is forging a new social fabric on this Continent, which at once gives the female new opportunities while it

presents her with many new problems about which she may be poorly informed.

In the sixty years between 1902 and the end of 1961, the conversion of electrical energy alone increased by one-hundred and forty-seven times, multiplying from 5.9 billion kilowatt hours in 1902 to 883.9 billion kilowatt hours in 1961. There is almost no general public appreciation of this astonishing trend in power growth, and the massive social change that it has brought to North America. The fusion of power and mechanical procedures in the production of goods and services has swept this Continent forward and upward onto a new plane of social development for which history furnishes no guide. This change presents a wholly new problem of social control.

North Americans have hardly been graceful and intelligent in their acceptance of social change. Because they are trying to operate a mechanized social organization with ideas borrowed from ages long since past, a residue of problems clogs their path into the future. The economy is creaking and groaning under the weight of a technologically produced abundance that money cannot distribute, and with which the Price System of this Continent was not designed to cope; technological unemployment is sweeping through industry, affecting all classifications of employment and involving male and female alike; natural resources are being wasted, destroyed and damaged at an incredible rate as the result of human stupidity and greed for momentary financial success; and social problems of every conceivable description are mounting faster than action can be taken to control them. The female may think it is the responsibility of the male to solve these problems; but from all indications the male is going to need all the help he can get from the female to bring under control the physical and social problems that are closing in on this civilization, to prevent everyone in it from being buried ingloriously under their own stinking, rusting garbage.

Equality and Social Responsibility

Whether or not she realizes it, the weight of the aforementioned problems bears upon the female as she moves toward economic equality with the male, and as she moves full circle back to a position of being able to 'forage' for herself in a technologically restored abundance. Notwithstanding her sporadic and largely misdirected efforts to improve her own status, she really hasn't done much to free herself

of dependency upon the male. It was male ingenuity—ironically for those males who object to increasing female independence—that built the technology which in turn opened the door for the female into the world around her; and that technology is keeping the door open. Now, it is squarely up to the female to make sensible use of her increasing social influence.

Circumstances are compelling the female to be concerned with several problems that are affecting the male. These problems have to do with physical and economic situations in which he finds himself, and cumulative conditioning which has affected his outlook on social affairs.

Rat Race of The Male

The male is caught up in a rat-race to accumulate things that is born of the American mania for success—a success that is measured not in accomplishment but in piling up a barricade of personal possessions to show off to the neighbors and acquaintances. Buying things is a rather common hysteria of the male and female which has been heightened to extremes in recent years. In hot pursuit of gadgets and trinkets, the male is on a treadmill that may consist of fighting traffic from 10 to 30 miles or more to work from his suburban home. On top of this grind, he may be working part time for someone else for more money to satisfy pressing debts. Americans now have a total private debt of \$312 billion, according to a recent report, which figures out to *approximately \$7,000 per family as a national average*. This fellow, the male, has obligated himself to such an extent that his life has become the property of his creditors, which in some measure explains why he hasn't shown the guts to take a stand for anything. He may be afraid of what someone will think if he does take a stand. Besides, he may be exhausting himself trying to maintain the pace, and to do what he thinks other people, including his wife, want him to do; so he is apt to lack the vitality to exhibit any significant degree of social consciousness. If the female wonders why her husband is spiritless and lacking in determination, she might study the economic mess in which he is likely to be embroiled.

Doubtlessly affecting the male behavior pattern on this Continent is the realization that he is losing his role as family breadwinner, and with it his authority as household head. He has the family responsibility for the debts, normally, but he may be taking on the characteristics of a boarder, as

the female of the household gains economic independence. He may be experiencing sensations of becoming the prisoner of family circumstances in a role that makes him more dependent upon the female than she is upon him. Such a situation could lead to female contempt for the male, tending to make the whole situation more intolerable. One of the manifestations of this kind of problem can be a tendency toward viciously reactionary male behavior toward female independence. Under European fascism, among the first of measures taken was to strip away as much female independence as conditions would permit, and to make the female a child-bearing machine. Reactionary political groups on this Continent, in the forefront of which is the Roman Catholic hierarchy, are taking the stridently fascist line to convince the female to go home and have babies. The Madison Avenue soft sell on the glorification of 'motherhood' supports this reactionary objective. It is frequently heard that if the female would stay home 'where she belongs,' there would not be an unemployment problem or a juvenile delinquency problem, which, of course, is a convenient way to dodge the fundamental issue of a technologically generated social change. The contentions of people such as psychiatrists and family problem counselors—people one might expect to be more intelligent—smack of this propaganda. They say: (1) female independence is disrupting the family unit and is destroying masculinity in the male; and (2) the answer is for the female to retire to the home and be a 'mama,' presumably to an adult male, as well as to the offspring.

Female Psychology

The physical factors of social change are by far the most important in the turbulent human relations on this Continent. But consideration must be given to psychological factors. For example, the invidious distinction between male and female roles brought on by pre-historic scarcity which forced upon the female a subservience that is to some extent rooted in her contemporary make-up has resulted in the transmission of a submissive attitude to her offspring. This has tended to weaken forthrightness and emotional growth among humans. The moralism aimed at the female throughout Christian history is still impressing upon her a sense of guilt about sex, which becomes conditioned into her children. And, of course, the Puritanical background of America is the subject of much comment by persons working in the field

of anthropology and related fields. Eric John Dingwall, British sexual anthropologist, says, in *The American Woman*, that early American women were the principal target of a Puritan ideal which taught that God was the supreme good. A straight-laced moral conduct was built around this concept. But Mammon—the desire for success and money—destroyed the ideal, leaving an empty moralism in which the mother, who was the teacher of all that was good and pure, became the symbol of excellence. Hence, the Motherhood fixation of today which may be idealized by the American male, and through which the female may learn a male-detesting attitude.

Social practice has been in violation of the Puritan ideal. For this reason, a strong residue of guilt, which has persisted in generation after generation of Americans, has tended to make them suffer from a moral constipation, and to arrest their emotional growth. To what extent this conditioning has affected Americans is difficult to measure; but it is safe to say it has had a submissive effect, perhaps most markedly, upon the male. At least, authorities indicate that there is a significant problem among males who have been so drastically affected by 'momism' that they are unable to adjust to the masculine life situation of military service.

No Points in Blaming

There is no point to be gained by attempting to assess blame for the problems that exist, whether they be physical or psychological. Neither individuals nor one sex of the species can be held responsible for conditions created by the Price System. But to the extent that people, collectively, allow the problems before this Continent to grow by doing nothing about them, they will be responsible for the end result. Trends have put the female, as well as the male, on the spot.

According to Dr. Spock, nationally known pediatrician, the American woman, on an average, has had her last baby at age twenty-six. The reduction of the number of babies a woman conceives now, as compared to fifty years ago, is a factor in her increasing influence in affairs outside the home, because by the age of forty her family will be substantially reared. Reduced abuse of her body, by decline in the number of babies she has now compared to, say, Colonial times when ten or twelve children, not counting still births and miscarriages, were common, plus vastly reduced hazards of child birth, are important factors in her increasing longevity. Thus, the female senses and feels that a change

in her social role is taking place.

As the restiveness among some females reflects itself in a growing national concern about their future status, Technocracy wonders to what extent the female is conscious of her potential for influencing the course of future events. Technocracy contends that the potential is enormous, and it can be positive or negative, depending upon the degree of her willingness to come to grips with social issues emanating from technological change.

The fact that the female generally is living longer than the male, and the trend of the female into more important function in physical and social affairs, saddles her with increasing social responsibility. She is in a position to make effective use of her influence for social change for the following reasons: because she has the built-in purpose of procreation, she is naturally motivated toward protecting the species and will fight danger to her brood; she wields more influence over the offspring than the male because she is with them far more than he is, which has its negative aspects, but which also makes it possible for her to guide them in this social change; and she can be mightily effective as counsellor to the male in assisting him to discover and assume his broader role as the builder and operator of the coming technological society of North America. In summary, the female may well hold important keys to a mature and balanced social development on this Continent. But she must decide to act soon if she expects to live through an intelligently directed social transition. Should she decide to take action on behalf of social change and Technocracy, what could stop her? She holds a handful of aces, the foremost of which is procreation and its attendant activity. No one can argue with that.

As for the family unit, it is not likely that any retreat to the past will be successful in preserving it in its present form. With the arrival of a real economic equality and independence between male and female, as blueprinted by Technocracy, a new social form will take the place of the old form. In broad terms, people will live together under the same roof because they want to do so, not because conditions force them to do so. Such a society would not be 'a man's world' nor 'a woman's world.' It would be a society in which humans may grow and develop themselves to the maximum of their capabilities, during which time, with a minimum of human toil, they might learn how to live—for a change.

—Harry Briggs

MY TWO CENTS WORTH

The other day, I heard a man complain that he had to take a 'slow' plane on a trip across the country and it would take him twelve hours to go from San Francisco to New York. I can remember when we thought it was awfully fast to go across the country on a train in three days and nights. I bet our grandparents would be glad if they could make it in three months.

Now people get in their fast cars and zoom along the super-highways like mad. They travel all over the country but they don't see much of it. Maybe when they are on vacation they stop at a few important places and take pictures of each other to prove to the folks back home that they've had a vacation.

It is getting so that people can travel all over America nowadays and not see America. All they see are some super-highways and motels and restaurants and a lot of other people in a rush to get somewhere. I can't see much fun in that. I would rather just go to a few places and stay there long enough to look around and really enjoy them—anyway, see how other people live when they are at home and not trying so awfully hard to pretend they are having a good time.

—Ima Moron



FIRE FIGHTING

A THREE YEAR PROJECT, another in the continuous effort to combat forest fires and one which may save the lives of future fire fighters, is being launched by the U. S. Forest Service. This project is one to standardize fire hose couplings to conform to National Fire Protection Association standards. Increasing emphasis on mutual aid in fire fighting between Federal, state and local agencies makes availability of equipment that hooks together like hose, highly desirable.

In pointing up the need for standardization, the Forest Service said there are 462 fire hose coupling thread forms in use by fire services in the U. S. There are 17 different threads per-inch types in 10 basic sizes of fire hose fittings.

—Everett Daily Herald

Long Range Vision Needed

Technocracy is the only organization with the long-range vision capable of seeing that the problem of unemployment along with all other general social and economic problems, is caused by the Price System and, therefore, cannot be solved within its framework.

As frustrated as a 'woodpecker in a petrified forest,' going from tree to tree in a futile search for food, most unemployed individuals go from place to place in a futile search for work.

For an example we have the actual case history of a Cleveland man to whom we will give the fictitious name of John Clark. He is brighter than average, physically fit, gets along well with others, is willing to work hard, and tries to do his best at all times. He was a good student in high school, but he married early and dropped out before graduation. 'His Ohio State Employment Service tests show a high computational, scientific, and artistic aptitude.'

Since 1954 John has had seven jobs and has been laid off from each one. The total time while he was actually working is shorter than the time he has spent looking for another job. His determination to work is evidenced by the fact that he worked 12 hours per day, six days a week, as a taxi driver at \$30 a week. Then he was advised by the Ohio State Employment bureau to take a Boiler Operator Training Course. A social service group helped him with his tuition and endeavored, without success, to find other job opportunities for him. After John had studied boiler operation for a year, the State of Ohio stopped issuing licenses in this field, saying it was over-crowded. So John is now among the unemployed, but he keeps trying to find work.

Approximately 420 people in Cleveland are laid off every week because machines can do their work more accurately, much faster, and at a substantial reduction in cost. A large number of these fail to find other jobs and become part of the army of the unemployed. Both high school dropouts and high school graduates who cannot find jobs, as well as Negroes and whites from the South, increase the size of this great army. 'In a speech to the Cleveland Welfare Federation, the manager of the Ohio State Employment Bureau said, "The number of workers is growing faster than the number of jobs."'

Cleveland is to receive \$263,000 next year from the Federal Government for job retraining. Those to be given retraining will be chosen from 2,300

applicants. Training in five skills will be given: 'Machine operators, auto-transmission repairmen, auto-body repairmen, clerk-stenographers, and practical nurses.' A director of the Office of Job Retraining, when asked if the program would help those whose need is greatest, replied, 'Probably not. Training will help the recently displaced skilled and semi-skilled whose specific jobs have disappeared. The hard core probably won't even apply . . . Retraining of the really uneducated and unskilled raises a prior question: retraining for what?'

The director of the Occupational Planning Department of the Welfare Federation stated: 'We are now developing in Cleveland a large group of people who have been out of work two or three years, who have run through their savings, lost their homes, given up their insurance, and look like permanent welfare cases.'

Statistics show that Cleveland is no exception to the general rule. In Chicago 10,000 physically able men are on welfare and over 30,000 mothers are receiving welfare aid. Looking at the over-all statistics for the United States, we find that 35,000 people become displaced by automation every week. Though industrial expansion and new enterprise absorb some of these, many do not have the skills required by the new enterprises and are unable to acquire such skills.

Regarding the 'dropouts,' it should be pointed out that the percentage of young people who quit high school before graduation is no higher today than it was a generation or two ago. But at that time there were plenty of jobs to be performed by muscle power, on farms and in factories. Today the economic climate has changed. There are very few job opportunities for these poorly educated, unskilled youngsters.

Why are so many intelligent people so short-sighted that they fail to recognize the obsolescence of human muscle and brain power? This is an important question. There are many reasons, as we shall see presently.

One reason is that discrimination against the Negro has been allowed to camouflage the funda-

mental causes of unemployment. Though there are more than twice as many unemployed Negroes as whites, the real division line is between those who have the required skills and those who have not. Many Negroes who are skilled workers are coming into the 'middle class' regardless of their racial status.

Another reason for failure to realize the plight of the jobless is the migration to suburbia. Those who have been trained to hold highly technical positions are the ones who can afford to live in suburbia. After moving out of the city they have become 'upper class' in their thinking. On their way to work or to places for recreation they do not see the slum areas where the human scrap-heaps are, for the main arteries of traffic do not go through these ghettos and byways of the city.

Still another reason for this myopia is that many of those who now have good positions think that if a man does not have a job it is his own fault, that he lacks determination and initiative. This is a prevalent form of mental near-sightedness. The truth is that the majority of those who want work cannot find it, for there are fewer lower-level jobs today due to the extensive use of automatic devices.

The most valid reason for failure to recognize the obsolescence of the unskilled worker is that a large segment of the population 'never had it so good.' During the depression of the 30's business executives were as hard hit as factory workers. The permanently unemployed individual is a newcomer in our economy. He is a by-product of the intensified application of technology to methods of production—the second Industrial Revolution, which is bringing about far more social change than that caused by the first Industrial Revolution. In the field of mechanization and automation, engineers, technologists and others who are qualified are very much needed. It is hard for those who are employed and who feel secure in their positions to realize that the millions disemployed by technology are permanently disemployed, are unable to earn a living, cannot buy the products of automation, and are increasing in numbers so rapidly that they are creating problems which cannot be solved under our present economic system.

The basic difference between the first Industrial Revolution and the revolution which is upon us now is that whereas the first revolution increased the demand for machine operators, the present one is

eliminating them rapidly. It will probably progress at an accelerating rate. Some are of the opinion that technological change will grow steadily and slowly, but this is not so. There were 5,000 years between the introduction of written language and movable type. Only 300 years elapsed from Gutenberg to Morse, 60 years from Morse to Marconi, and 66 years to Telstar. This rapid rate of change in the field of communication is paralleled in other fields—prime movers, transportation, textile inventions and many others. Barring chaos or the annihilation of the human race by nuclear war, man's ability to produce more and more by extraneous energy leaves less and less opportunity for unskilled workers.

Some of the remedies for this situation which have been proposed by those who cannot see beyond the Price System are: a much shorter workweek, with only one job allowed to a family; compulsory early retirement; refusal to hire young people before the age of 25; retraining; and public works projects. Cutting the hours of work for each employee and keeping the pay the same, thus spreading the jobs among more people, has often been advanced as an answer to unemployment. This of course would greatly increase costs. The question is: who would pay the bill? All the remedies proposed by those who would continue with the Price System are short-sighted and entirely inadequate.

Technocracy is the only organization with long-range vision—vision capable of seeing that the problem of unemployment, along with all other general social and economic problems, is caused by the Price System and therefore cannot be solved within its framework. Under the Price System the application of technical devices to our means of production reduces the number of employed individuals and decreases the amount of purchasing power in the hands of the citizens of North America. This causes unsold goods to pile up. Though the sale of goods, the percentage of profit, and the number of unemployed fluctuate, these factors, in general, follow a definite, unidirectional, irreversible trend toward the failure of the Price System to function at all. When we reach the point beyond which the total purchasing power will not be sufficient to bring a profit to industry, the Price System will have to be discarded and replaced by Technocracy's design for operating this Continent. This event will require functional control without money.

For the first time, technology will be exten-

sively applied to *distribution* as well as to *production*. And for the first time, all citizens of the Continent will receive and enjoy the abundance of goods and services produced. No North American citizen will be deprived of the things he needs and can use for his comfort, well-being, and enjoyment. These things will be distributed to everyone, from birth to death. Only those between the ages of 25 and 45 will be required to work, four hours per day, 16 hours a week with two and a half months' vacation each year.

So let us take off the dark glasses through which we have been looking and let us get Technocracy's long-range view of the possibilities for the future of North America. Join Technocracy, study its functional design, and find out what you can do to hasten the day when we can start living in the Technate of North America.

—Edith V. Chamberlain



CLIMATOLOGISTS ARE DOING SOMETHING ABOUT WEATHER

WASHINGTON — Climatologists are working toward the day when they can do something about the weather.

Already it is possible to change the trend of weather in limited areas, or 'microclimates,' the National Geographic Society says.

Small, but measurable, effects on climate are induced by creating new lakes, changing river courses, planting forests and artificially suppressing evaporation.

Cities are among the greatest man-made influences on microclimates. The downtown area of a city and near-by rural areas often have startling differences in weather.

Compared with its rural neighbors, a city has 5 to 10 per cent more clouds and precipitation. Temperatures average 1 to 2 degrees higher. The windspeed in a city is 20 to 30 per cent less than in the surrounding country, and the relative humidity is 3 to 10 per cent lower.

Changing climate on a large scale would call for grandiose measures, however. An engineer recently proposed building a dam across the Bering Strait and pumping the Arctic Ocean into the Pacific. The idea was to stimulate a warming flow from the Atlantic into the Arctic basin.

The proposal was quickly dismissed when clima-

tologists warned that the results probably would be just the opposite of those intended. As a side effect, the Gobi Desert might creep northward.

Tampering with nature always is potentially disastrous, experts warn. If, for example, the Strait of Gibraltar were blocked, the final result might well be transformation of the Mediterranean Sea into a desert, because evaporating water would not be replaced by water flowing from the Atlantic.

Mountain ranges profoundly influence climate by blocking moisture-laden air from leeward. Thus if several passes were deepened in the Sierra Nevada, more moist air would flow into the Nevada desert, transforming parts of it into cultivable land.

In this case, the side effect probably would be beneficial also. Decreased precipitation in the mountains would make it easier to keep the passes cleared of snow in the winter.

To create a major climate change, scientists would have to modify substantially the tremendous amount of solar energy received continually by the earth.

About a third of this solar radiation is lost by reflection from clouds and earth. Most of the remainder is absorbed and later returned to space in long waves emitted by the surface, atmosphere and clouds. In time, the incoming and outgoing radiation balance, but local imbalances provide the energy for wind and weather systems.

To modify this radiation, a climatologist recently suggested touching off nuclear exposures in the Arctic. Theoretically, the massive ice clouds would prevent ground radiation from escaping into space and reflect it downward, raising the temperature. Like a giant greenhouse, the clouds would allow incoming solar radiation to pass through.

The results, however, would be costly, temporary, and somewhat unpredictable. Such experiments are tempting to think about, but a leading climatologist recently advised 'a little more humility in the face of the overwhelming powers of nature.'

—The Everett Herald



DILEMMA

The purchasing agent faces his toughest decision when he negotiates to buy the machine designed to replace him.

—The Wall Street Journal

IMPACT OF TECHNOLOGY ABROAD

More profoundly disturbing to the Old Order, more devastatingly to the age-old ideas of mankind than any political concept, past or present, is the march of technology around the world. Social change, induced by technology, population pressure and the simple desire of peoples for something better than they have now, is breaking down the Gates of the Old Order. Nothing, short of total annihilation, will stop social change either in North America or abroad.

NEW CABLES WILL CROSS NORTH SEA

Four new submarine cables are planned for North Sea crossings linking Great Britain with Germany, Denmark and Holland and providing increased traffic capacity. Two separate cables will be laid to Germany and one each to Denmark and Holland. Each cable will carry 120 telephone circuits.

Orders for the 900 miles of cable, submarine repeaters and equalizers, together with power feeding and terminal equipment, have been placed by Britain's General Post Office with Standard Telephones and Cables, Ltd., and ITT affiliate. The installation will feature STC's new shallow water repeaters which can be opened for examination at sea, rather than be returned to the factory.

—Telephone Engineer Management

CONTROLLED LOWERING OF TERRAIN

Europe's largest and busiest inland port, Duisburg, W. Germany, is undermining a 1.5-sq. mile section in its harbor area as much as 7¼ ft. Located at the junction of the Rhine and Ruhr Rivers, Duisburg's harbor water level had dropped dangerously, due to erosion of the Rhine bed and increased rate of its water flow. The harbor itself is protected and not subject to erosion. So in order to preserve the huge shipping industry—more than 45 million tons of cargo per year—engineers are carefully sinking the surrounding area. The ground being lowered supports industrial buildings, a steel mill, petroleum tank farms, warehouses and two major highway bridges. Two geological features make this tremendous project relatively safe and economically practical. The city overlays a 300-ft. stratum of marl; due to its spongy nature it is possible to control subsidence. Three rich veins of coal also are present, and the removal of approximately \$150 million worth will pay for much of the work. So far mining has proceeded with such care that operators of the above-ground industries have had practically no inconvenience.

—Engineering News-Record

PORT OF LIVERPOOL

With the opening of the ambitious new Langton River entrance, the port of Liverpool has seven new deep-water berths and three transit sheds equipped with modern unloading devices and quayside cranes, and offers also fast and efficient road and rail connections. Under construction for 12 years, the £20 million project is the largest carried out in Britain since the war and the biggest of its kind ever undertaken in the north of England—Liverpool.

—Foreign Trade, Ottawa

NUCLEAR POWER

Italy will have six nuclear power stations by 1970: the 200,000 KW. nuclear station at Latina will start operating in a few months, the Garigliano power station (160,000 KW.) will be completed before the end of 1963, and work on the one at Trino Vercellese, also 160,000 kw., is progressing.

The Comitato Nazionale per l'Energia Nucleare (Italian Committee for Nuclear Power) is studying a further program that would involve the construction of two or three plants, each with a capacity of from 300,000 to 500,000 kw.

—Foreign Trade, Ottawa

PAKISTAN GETS PLATES FROM PENNSYLVANIA

Quality products from the U.S. can still find a ready market in the world—despite stiff international competition.

The largest order (1555) for T-1 Type A high-strength steel plates ever rolled by Lukens Steel Co., Coatesville, Pa., is not going to a U.S. customer. It's slated for the giant Mangla Dam project in Pakistan's Indus Basin where it will become the penstocks for the 10,000 ft. wide dam.

Lukens previously produced more than 3,000 tons of T-1 for the world's highest concrete dam, The Grande Dixence in Switzerland. It was completed in 1961.

Pak-Electron Ltd., of Lahore, Pakistan, will manufacture transformers, switchgear and motors under a license and technical assistance agreement with Westinghouse Electric International Co.

—Iron Age

LOAD CONDENSER TUBES FOR JAPANESE POWER

A shipment of 880,000 lb. of aluminum brass condenser tubes is being shipped from Buffalo to Owase, Japan.

They are to be used in the construction of two giant steam condensers for a new 750,000 kw. thermal-electric power plant.

The order, from Ingersoll-Rand Co., builders of the condensers, is one of the largest ever handled by the Buffalo plant of Anaconda American Brass Co. International General Electric Co. is building the power plant for Chubu Electric Power Co.

—Iron Age

DIRECT CURRENT PROCESSING

Direct current is employed by Russian engineers to speed up processes taking place within building materials; periods of days and weeks are stepped up to hours. Known as the 'PK' method—for inventors A. N. Pervovsky and A. S. Karzhuyev—both road and building materials can be effectively treated. An example of the latter is arbolite, a new structural material made from wood, portland cement and water. The wood waste, which can include straw, maize and hemp scutch, is pulverized, mixed with cement and water—then a liquid glass electrolyte is added. The direct current treatment speeds up the chemical process, and the arbolite solidifies within an hour. Its makers claim the material to be soundproof, fireproof, lightweight (one and a half times lighter than water), weatherproof and suitable for any kind of finish. In the U.S.S.R., the cost of arbolite panels is approximately 80 percent that of brick, less than half the cost of concrete block, and 40 percent that of sawn timber.

—Rock Products

BRITAIN OPENS 2 NUCLEAR STATIONS

LONDON—Two nuclear power stations were opened formally recently, feeding 575 megawatts into Britain's electric system. Prince Philip opened the 275-megawatt station at Berkeley. Two hundred miles away at Brandwell, Sir John Rogglesbrise, lieutenant governor of the County of Essex, set another 300-megawatt station humming. A megawatt equals 1 million watts.

—Seattle Times

GERMANS DEVELOP SPEEDY LOCOMOTIVE

The fastest and most powerful diesel-hydraulic locomotive in West Germany has been developed by Henschel-Werke Aktiengesellschaft of Kassel and the Bundesbahn Zentralamt (central office of the German Federal Railways) in Munich.

The 4,000 horsepower locomotive, the V-320, with other Henschel products, will be exhibited April 28 to May 7 at the German Industries Fair in Hannover. Built for long-distance hauling and freight trains, the V-320's top speed is 100 miles per hour. Speed ranges are selected by hand through a hinged hatch in the cover plate of the underframe.

One of Europe's major and most successful producers of locomotives, trucks, buses, diesel engines and capital goods, Henschel-Werke Aktiengesellschaft has annual sales of about \$125,000,000.

The company has signed several licensing agreements with American corporations, among them E. W. Bliss Company of Canton, Ohio, and the Prodex Corporation of Fords, N.J.

—Christian Science Monitor

SOVIETS COMPLETE PIPE LINE

A natural gas pipe line network linking Moscow with several outlying areas has been completed, a report in Pravda says.

The pipeline covers some 4100 miles and is capable of carrying about 3 billion cubic feet of gas daily. About half of the deliveries go to Moscow, with the balance going to industrial centers in European Russia.

—The Standard Oiler

RUSSIAN PLANT BEGINS PRODUCTION OF BIG PIPE

MOSCOW — Pravda announced Monday the Soviet Union's largest plant designed to turn out large-diameter pipe for gas and oil pipelines has gone into production.

The Soviet Communist party newspaper said the new shop, at the Chelyabinsk steel works, turned out its first 40-inch pipe Monday—two days ahead of schedule.

It said construction workers were spurred to complete the plant by refusal of some industrial nations to export large-diameter pipe to the Soviet Union. The United States has persuaded some of its allies that such pipe is strategic material.

The Pravda report gave no planned production figure for the new plant. Despite Soviet protests about the embargo, officials here say domestic plants can satisfy this country's needs for 40-inch pipe.

A high-ranking Soviet gas official said recently Soviet domestic capacity is more than 1,000,000 tons a year. This is enough for 2,000 miles of pipeline.

The Soviet Union is scheduled to complete this year a 1,500-mile gas line from Bukhara in Central Asia to the industrial region in the Urals and the 2,500-mile 'Friendship Pipeline' to carry crude oil from fields near the Volga to refineries in Poland. East Germany, Czechoslovakia and Hungary.

The United States has said both lines represent important contributions to the Soviet Union's military potential.

West Germany, Italy and Japan have taken steps to curb exports of pipe to Russia. However, significant quantities of big pipe are still coming from Sweden and Britain.

HUGE DREDGER ORDERED

CALCUTTA—A huge dredger, costing \$5,250,000, has been ordered from a Dutch firm for use in Calcutta's port. The hopper capacity of 5,000 tons will make the dredger India's largest.

—Seattle Times

OIL NURTURES TREES

NEW YORK—After 2 years of experiments, Esso Standard Eastern and the forestry department of Tripolitania are reportedly ready to launch a program that could lead to turning large areas of barren wastelands into productive timber forests.

The plan involves spraying sand dunes with a petroleum product developed by Esso Research designed to hold sand in place long enough to root fast-growing tree seedlings. The new program involves about 125 acres of dunes in two separate areas of Tripolitania in the Libyan Desert.

Esso rooted three seedlings in an experimental area that had been treated with the petroleum mixture in 1961. After a year, and without any additional spraying, the trees in the test tract had grown to 14 feet.

—The Standard Oiler

POWER FOR KOREA

Babcock & Wilcox is manufacturing two boilers for a new \$23 million power plant in Pusan, South Korea. The plant will supply electricity for the area and is scheduled for operation in July 1964.

—National Engineer, Dec. 1962

CONTINENTAL TRENDS IN TECHNOLOGY

U.S. CAPABILITY IN ELECTRICITY

HITS NEW PEAK

The capability of the total electric utility industry of the contiguous United States (excluding Alaska and Hawaii) increased by 9,200,000 kilowatts during 1962.

It reached a level of 197,800,000 kw. in December, according to the year-end summary of the Edison Electric Institute.

This is 63,200,000 kw. more than the capability at the end of 1957—five years previous. It represents an average annual increase of 8 percent during the five-year period.

In December the peak load for these 48 states was 151,400,000 kw., an increase of 7.6 percent above the corresponding load for December, 1961. The peak load is the maximum rate of electricity demanded during the month.

Both capability and peak load were down about 1 percent from predictions of last October.

Preliminary data indicate the 1962 electric energy output for the electric industry was 860,200,000,000 kilowatt-hours. This is an increase of 7.6 percent over the output during 1961. Over the past five years, the average annual increase has been 6.2 percent.

During 1962, two commercial-size atomic power plants were placed in operation. They were the Indian Point plant of Consolidated Edison Company of New York, Inc., and the Big Rock plant of Consumers Power Company. Together, the ratings of the main generating units of these plants total 329,500 kw.

—The Christian Science Monitor

VEHICLE LEASING HITS \$1 BILLION

Vehicle renting and leasing produced record revenues to become a billion dollar industry for the first time last year. Commercial Car Journal reports that vehicle leasing is expected to show almost a 20% increase this year and register revenues of \$1.29 billion.

—Industrial Marketing

Tiny, high-pressure water jets are being used successfully to cut wood. Experiments have shown this method possible for felling trees and limbs, and machining parts of furniture. The water 'saws' create less sawdust, are faster, and require less maintenance.

—Rock Products

PRR COMPUTER SYSTEM TO SAVE \$300,000

The Pennsylvania Railroad announced recently it has installed computers in its offices here and in Altoona, that will help save about \$300,000 a year in inventory carrying charges for some 90,000 different items used in its repair shops.

J. Benton Jones, vice president in charge of purchases, said the new system will reduce the PRR's normal \$30 million supply of repair parts by approximately 10% through better control of inventory and improved efficiency.

'We expect to gain full advantage of the new system about midyear,' said Jones. 'At the same time we will improve service to all departments of the railroad using materials and parts.'

—The Evening Bulletin, Philadelphia, Pa.

ELECTRONICS RECORD

Shipments of electronics products to government space and defense agencies is expected to total \$9,000,000,000 this year, Standard & Poor's Corporation reports.

The statistical research organization said this will represent an 18 percent gain over the record \$7,600,000,000 estimated for last year.

—Christian Science Monitor

RAPID SLICER

CHICAGO—Man's efforts to demolish time and space affect all aspects of his existence, including food production. Neatly packaged supermarket bacon, for example, moves from farm to frying pan with the speed of a slicer developed by Allbright-Nell. Its microscopically honed circular blade whirls through 3,500 pounds of bacon an hour, turning out more than 1,100 slices a minute with the thickness of each electronically controlled. More than 80 per cent of the world's packaged bacon is sliced by this type of machine.

—Everett Herald

MACHINE CONSTRUCTS STEEL PIPE IN FIELD

A unique machine that shapes flat steel into a pipe in the field is being used to construct a Pacific Gas & Electric Co. natural gas transmission main near Fresno.

The mobile pipe mill weighs about 100 tons and consists of two sections, a power unit and a mill unit, each mounted on crawler tracks. As it moves along the pipeline route, a coil of flat steel is fed through a series of rollers which increasingly shape the steel into pipe. When the pipe is formed, a seam is welded along the top by radio frequency welding.

The pipe mill makes lengths of pipe from 1,000 to 1,500 ft. long. Then sections are field wrapped for protection and welded together by conventional means, and side-boom tractors lower the pipe into the ditch. Speed up to 3 miles per day is possible.

—Pacific Builder & Engineer

DEEP DRILLING INCREASE

DALLAS—A record number of 254 deep wells costing some \$168.8 million were drilled in this country last year, *Petroleum Engineer* magazine reports. The publication tabs a deep well as one drilled at least 15,000 feet.

The 1962 total was 11 wells more than the record 243 drilled in 1961, and marks the ninth straight year that deep drillers have increased. Cost per well in 1962 was about \$664,000, which averages out to approximately \$44 a foot.

The magazine's survey showed Louisiana again at the top of major deep drilling areas, with 203 deep holes on record last year. Texaco, Inc., continued as the most active company, with 45 wells completed.

—The Standard Oilier

MEXICO—INTERCOASTAL CANAL

The Mexican Navy Department has announced plans to complete a canal from Tuxpan, Veracruz, to Matamoros (close to Brownsville, Texas). Private contractors will be selected for at least part of the project. The new link between Matamoros and Tampico will join the Tuxpan—Tampico section which is now in operation. The new canal may eventually result in a new transportation route for Canadian goods to markets in Mexico—Mexico City.

—Foreign Trade, Ottawa

DEVELOP 100-TIMES FASTER COMPUTER

AKRON, O. — Goodyear Aircraft corporation said recently it has developed a computer memory system that is up to 100 times faster than conventional methods and can search and compare up to 32,000 ten-digit numbers simultaneously.

The company said its new associative or 'tag' memory system is expected to have wide application in intelligence data handling, cryptographic analysis, and other very high speed sorting requirements.

C. D. Morrill, Goodyear Aircraft's manager of electronics research and development, gave this explanation of how the new system works:

'For example, if you had the names of all of your 1,000 employees stored in a computer and wanted to determine whether a John Jones was employed, you would ask the computer for the information.

'In a common digital system, the computer would examine each name on a word-by-word basis and report the answer.

'With Goodyear's associative memory, the question would be asked of the entire list of 1,000 names simultaneously and the answer would be received 100 times faster than with the conventional computer.'

—Associated Press

CREDIT CARD

CHICAGO—Your thumbprint may be the universal credit card of the future. After selecting a home, car or necktie, you would simply place a card with your thumbprint in front of an electronic scanner for instant identification at a central information file.

—Ed Note—Well, if they keep working on the problem, they will discover Technocracy's Energy Certificate.

TEXAS SUPPLIES HALF OF NATION'S LPG

HOUSTON—Texas will produce about 6 billion gallons of liquified petroleum gases this year, about half the nation's output, and will consume some 4.5 billion gallons, more than a third of the total used in this country.

These predictions were made by Fred H. Ramseur, Jr., president of the National LP-Gas Council at the 42nd annual meeting of the Natural Gas Processors Association.

—The Standard Oiler

Sixty-four per cent of all working people use a private automobile as means of transportation to work.

—Everett Daily Herald

University of Washington physicists have measured the size of certain nuclear particles down to 50 quadrillionths of a centimeter.

—Everett Daily Herald

TIME TO COME OUT OF THE WOODS

Toronto Globe & Mail, Montreal—Canada's pulp and paper industry recently began to grapple with the problems of mechanizing forest operations—the miniature industrial revolution which is replacing physical force by machine force.

Total mechanization will result in year-round operations with a man-hour productivity from twice to three times the present rate, said F. A. Harrison of Canadian International Paper Co.

This eventually will mean that only 30 percent of the men now working in the woods will be required, and that more men will have to look elsewhere for jobs, said J. D. Roberts of Bowater's Newfoundland Pulp and Paper Mills Ltd.

—Toronto Globe and Mail

JET LUBRICANT DEVELOPED

LINDEN, New Jersey — A synthetic jet lubricant capable of withstanding temperatures 100 degrees hotter than the upper limits of oils now in use has been developed by Esso Research and Engineering, the company has announced.

—The Standard Oiler

NO POLLUTION PULP MILL

A French patent called Nitracel may greatly change the pulp mill picture of the Pacific Northwest.

The nitric acid process can digest any wood, even straw, with no odor, no pollution, very little water need and at less cost.

It uses 3,500 gallons of water per ton compared to the usual 70,000.

The residue from the process instead of polluting water is sold as a soil conditioner.

A 50-ton plant requires about 1,500 kw. of electric capacity. Stainless steel and considerable automation characterize the proposed plant.

The acid process requires virtually no heat and little water and is reputed to cost \$47 per ton of pulp as compared to \$58 for conventional methods.

—Pacific Northwest Public Power Bulletin

GRAND COULEE MODERNIZATION

Modernization of Grand Coulee's power operating facilities, scheduled for completion in 1966, will result in savings of \$600,000 per year in operating expenses.

Modernization and consolidation of controls for the eighteen 108,000 kw. generators and six 65,000 hp. irrigation pumps will permit one operator to man a central control board to operate all generators and pumps supplying water for the Columbia Basin.

Information on conditions throughout the system will come to the operator by means of closed circuit TV scanners and electronic monitoring equipment.

The system presently employs 79 people. This number will be cut to 30 under the modernized system. The 49 operators who will no longer be needed at Grand Coulee will be placed in other positions in the Bureau of Reclamation, mostly at the new power plant now under construction.

—Pacific Northwest Public Power Bulletin

DEVELOPING SOCIAL PROBLEMS

WORLD POPULATION TO DOUBLE EVERY 35 YEARS

Edmonton Journal, Washington (AP)—The national academy of sciences has called for an international effort to cope with 'uncontrolled population growth' throughout the world.

A report to the public issued by the academy Wednesday declared that "other than the search for lasting peace, no problem is more urgent." It added:

'In our judgment, this problem can be successfully attacked by developing new methods of fertility regulation and implementing programs of voluntary family planning widely and rapidly throughout the world.'

The academy is a private organization of scientists and engineers.

Forecasting that at the present rate of increase the world population will double every 35 years, producing a population of 6,000,000,000 by the year 2000, and about 25,000,000,000 by the year 2070, the report declared:

'Such rapid population growth, which is out of proportion to present and prospective rates of increase in economic development, imposes a heavy burden on all efforts to improve human welfare. Moreover, since we live in an interconnected world, it is an international problem from which no one can escape.'

—The means necessary for birth control are known to science. However, because of political and ecclesiastical intransigence, no concrete steps have been taken.

HIGH DEGREE OF ILLITERACY CITED

WASHINGTON—Labor Secretary Wirtz said yesterday that 38 per cent of the youths called for the draft last year were rejected because of illiteracy—and 13 per cent of the rejects were high-school graduates.

Wirtz, a former high-school teacher, told the closing session of the first annual conference of the National Committee for Support of Public Schools that the 'startling' illiteracy rate demonstrates that 'education has a responsibility to keep youngsters in school until they can learn to do something.'

—United Press International

FREEWAY DISPLACEMENT

The Nation's interstate highway program is displacing 15,000 families and 1,500 businesses every year.

—Everett Daily Herald

UNIFORMS FOR FRITZ

German soldiers will soon wear uniforms made in Norway.

The clothing industry is to supply 100,000 uniforms to the West German Department of Defense. The contract worth more than 1 million dollars, is the largest single export order in the history of the Norwegian clothing industry. A number of firms will share in the order, and they have established jointly a new company, A/S Konfeksjonseksport, to co-ordinate and control production. The order is to be effectuated by the end of 1963.

—Norwegian-American Commerce

A HOME FORECLOSURE FORECAST

Edmonton Journal, Washington (HTNS)—Close to 100,000 people will lose their homes through mortgage foreclosures this year.

Most of the homes will be small houses in the \$10,000-to-\$15,000 class. Some will be new. Others will be older homes and the typical owner will have had his house less than three years.

The number of foreclosures is high—too high—and it is causing worried discussions within the administration and in Congress. The federal housing administration recently completed an elaborate study of the problem. The housing and home finance agency is conducting an investigation. The senate housing subcommittee staff is preparing a special report.

This year's expected 100,000 foreclosures will be more than last year's 86,444 and that was the largest number since the depression year of 1939. The record total came in 1932 when 252,400 people defaulted on their mortgages.

UNDERSTANDING BILLIONS

It is hard for mere taxpayers to understand billions Congress keeps spending, but if an unlucky horse player had lost \$1,000 a day, seven days a week, every year from 1 A.D. through 2739 he would not yet have lost 1 billion dollars. Our national debt is over \$300 billion. Every baby born in the U.S. today already owes the federal government \$1,600. If the other nations decide to help us pay our great debt, it would cost every living soul in the world (3 billion) \$100 each. The government in 1962 was running in the red at the rate of \$100 million a week. Indications are that this will be stepped up in 1963. As we used to say on the farm, 'The crows are guarding our corn.'

—Credit World

FARM SURPLUS

A sample of modern economics at work: Investment in surplus of farm products in the year ended June 30 was reduced by \$381 million. But to reduce the surplus by that much, a loss from price-support programs was increased by \$726 million. About \$2 was spent for each dollar of cut in surplus.

In real life, that's a sure way to go broke.

—Cong. Record

BUSINESS FAILURE LOSSES SOAR

Liabilities of failing companies in January soared to a record high of \$160.9 million. The actual number of companies going under was 1258. This number is viewed as moderate.

It was failures among larger companies that pushed liabilities to a record high. Twenty-two companies with losses topping \$1 million each went under.

Failures in manufacturing led. These were up over the previous month and for the same month last year. Much of the increase in failing company totals was in the food processing and in the machinery lines.

—Iron Age

17 CHILDREN IN COUNTY, CITY JAILS

Seventeen children were in King County and city jails recently because of overcrowding in the Youth Service Center.

Juvenile Court Judge William G. Long transferred 14 one day, adding to the three already there. Ten were in county jail, seven in the city jail.

The judge was forced to make the transfers when a total of 169 children, more than 45 over capacity had built up over the week-end.

'The basic reason is the failure of the Department of Institutions to take those youngsters that have already been committed there,' Judge Long said today. 'The reason the state department can't take them is that the Legislature has not provided sufficient funds to produce the facilities that are necessary ...

'In the budget before the Legislature, the Department of Institutions added four additional group homes or half-way houses to place kids who have no place to go. The governor deleted all but one.

'Four additional forest camps also were requested. They were all deleted.'

'We can't turn these kids loose on the streets. I've got to put them in jail until the state takes them.'

Carl B. Erickson, director of the Youth Service Center, said about 35 mattresses had been hauled into the corridors for the surplus.

—Seattle Times

ARMED JUVENILES

We don't have to be too afraid of any foreign power invading the United States—we've got the best-armed juvenile delinquents in the world.

—Anna Herbert, Everett Daily Herald

TEEN-AGE UNEMPLOYMENT

Wall Street Journal—In February, after seasonal adjustments, 15.6% of all teen-agers in the labor market were unemployed, up from 12.9% in December, and more than double the overall February unemployment rate of 6.1%. High school graduates going directly into the work force this spring generally face a bleak job outlook. Says a Dallas high school counselor: "Two years ago employers talked to two or three seniors before hiring one; this spring they're talking to eight or 10 for every one they hire."

Several factors contribute to the problem. The postwar baby boom is adding a heavy influx of teen-agers to the labor market; at the same time, the number of high school dropouts mounts. Employers are also requiring greater skills and work experience. North American Aviation seeks a 'greater degree of qualification than one would get from high school, even for assembly-type jobs, janitors and laborers.'

SCHOOLS OBSOLETE

An estimated 1.7 million children are attending school in obsolete and unsatisfactory facilities, the U.S. Office of Education reveals.

—Everett Daily Herald

WELFARE STATE

More than 18 million people in the United States were receiving over a billion dollars a month in old-age, survivors and disability Social Security benefits at the close of 1962.

—Everett Daily Herald

MILL IN ANDOVER CLOSING

ANDOVER—Officials of the Marland Mills, one of the largest textile factories in the Greater Lawrence area, announced Wednesday the plant will close permanently after current orders are filled.

The closing will affect 453 employees. The J. P. Stevens Co. Inc. has operated the woolen mill here for almost 100 years.

John P. Baum, Stevens Co. vice president, said products from Japan, similar to those made in the Marland plant, were offered on the domestic market at prices approximately 40 cents per yard under Marland's cost.

The plant manufactures woollens, including uniforms and blankets.

—The Boston Globe

BUSINESSMEN WORRY MORE THAN EVER

Santa Ana Register, Teaneck N. J., (UPI) — The American businessman has become more of a chronic worrier than ever before, a motivational research expert believes.

What does the businessman worry about? He worries about changing conditions—not necessarily change for the worse—just change, President Emanuel Demby of Motivational Programmes, Inc., said recently in a world trade day address at Fairleigh Dickinson University.

Demby's talk was concerned primarily with the impact of the European Common Market on American business. He said the American manufacturer does more worrying about the common market than everything else put together, even though he thinks the common market ultimately will be a good thing for the United States.

But for the present the American business man thinks the common market is having a negative effect on American business—so he worries about it.

But that's not the only thing he worries about, Demby said.

He worries about changes in public taste here at home and abroad that might make his products unsalable. He worries about marketing and packaging techniques that may become obsolete overnight. He is haunted by the prospect of having to retool his plant and to automate at heavy cost.

He is even more frightened that automation in general will throw so many people out of work there won't be enough customers to buy his products. And he worries about the high cost of labor that is forcing automation.

He frets because his protective tariff walls are being torn down and because Uncle Sam no longer seems able to impose our products and our way of doing business on the free world.

Demby said that even now, many American businessmen find it hard to understand how Europe has gotten back on its feet and is able to run its own affairs and compete with us not only abroad but right here at home.

—The business man is primarily interested in making money, and is bound to worry when his competitors threaten his ability to do so.

These trends are rapidly gaining momentum, and there is nothing on the horizon to indicate a reversal.

The Price System on this Continent is nearing the end of the road.

REVENUE FROM BOOZE

Public revenues from various alcoholic beverage taxes totaled a record \$4,688,000,000 last year.

—Everett Daily Herald

—Sounds like an up-hill fight for Alcoholics Anonymous.

Some Things To Think About

. . . . In the fifteen years from 1946 through 1961, bankruptcy filings by the U. S. public have increased at an astonishing rate. The U. S. Statistical Abstract for 1962 states that these filings jumped from 10,196 in 1946 to 146,643 in 1961, which figures out to better than a 1,400 percent increase in bankruptcy filings while the U. S. population increased by about 28 percent. This would indicate that a great many individuals and families are having a tough time trying financially to digest the massive increase in private debt that has helped to produce the tubercular flush mistaken for economic health in the U. S.

. . . . The daily press of the Pacific Northwest was strangely silent about the results of the Italian elections a few weeks ago, though prior to the elections there was great ballyhoo about their importance. Only the briefest non-specific reports on the election results were carried by other news media. It turns out that the Italians voted more heavily for the communists than ever before, and that the moderately left-of-center Fanfani government is no longer a suitable vehicle of compromise between left and right. Especially embarrassing to the Vatican, which has hailed itself as the last bastion against communism, is the fact that all of this is going on right at its doorstep. Evidently, a good many Italians, nearly all of whom are Roman Catholic, divide their loyalties between what they think is good for them in the here-and-now and in the hereafter. And, as Technocracy has often pointed out, communism is all right for Europeans if they want it; but it isn't revolutionary enough to deal with the technological problems of North America.

. . . . There is no nation on earth which carries on a pretense of higher moral behavior than the U. S. Powerful groups of moralists fight against all sorts of 'evils' such as gambling in a legalized form. Only in a limited number of areas is gambling openly and freely operated. For years, one congressman has been attempting to get a bill passed that would permit operation of a national lottery, each time unsuccessfully. But the interesting thing about

gambling in the U. S. is that despite opposition to it by the moralists, it is a \$25 *billion* yearly business, according to Chet Huntley, NBC news commentator. This would indicate that political decree against something is not really a very effective means of stopping it, just as Prohibition did not stop people from drinking in the thirties. Nor has the rickety pile of laws in the country stopped crime, which is estimated to cost the country \$20 billion per year. Of course, with a moralistic approach to problems, the situation gets confusing. What is 'right' and what is 'wrong' depends upon who is doing the talking. As Technocracy sees it, most of the problems over what is 'right' and what is 'wrong' have to do with money in some way. Therefore, the simple way to solve these problems is to get rid of money. Then, what you have left is merely to determine if some individual or group action has injured or imperiled the welfare of another person or persons. No moral decision is involved in this approach. Something either happened or it didn't. And that's that.

. . . . A late report indicates that some four billion pounds of detergent soap is being dumped into the fresh water systems of the U. S. yearly. On Long Island, in New York State, people are getting suds out of their water taps, along with the water. The filtration systems will not break down and dissipate the detergent, nor does this happen naturally as with ordinary soap, because the detergent is petroleum base material. The alarming result is that pollution is making the water in a number of areas unusable for drinking purposes. This form of pollution, human sewage, and industrial wastes are turning the fresh water supply of the U. S. into running cesspools. The problem is particularly acute in view of the steady increase in national water requirements. The *per person daily water need* has risen to approximately 1,850 gallons, and it is climbing. The problem of water and its control for human use on this Continent is presenting a forceful case for the Continental Hydrology Program of Technocracy.

—12247-1

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in North America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every state in the U. S. and all provinces in Canada, and in addition there are members in Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic North American—you are welcome in Technocracy.

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Only Technocracy has the fortitude to proclaim that abundance and economic and social security cannot be dispensed to the people of Canada and the United States by any political party administration of this Price System, whether of the Left, the Right, or the middle of the road.

Technocracy takes its position that those who advocate any or all of these political nostrums are in actuality counter-revolutionists seeking to delay or sabotage the arrival of a New America of Abundance.

Technocracy points out that abundance and security can be achieved on this Continent only through the use of more and more technology, the degradation of more extraneous energy, the declining use of human labor, and a lesser number of jobs.

Our future in the New America does not lie in more millions of jobs. It lies in 300 million incomes.

You have your choice! Join a political party for more deception, or join Technocracy and face reality!

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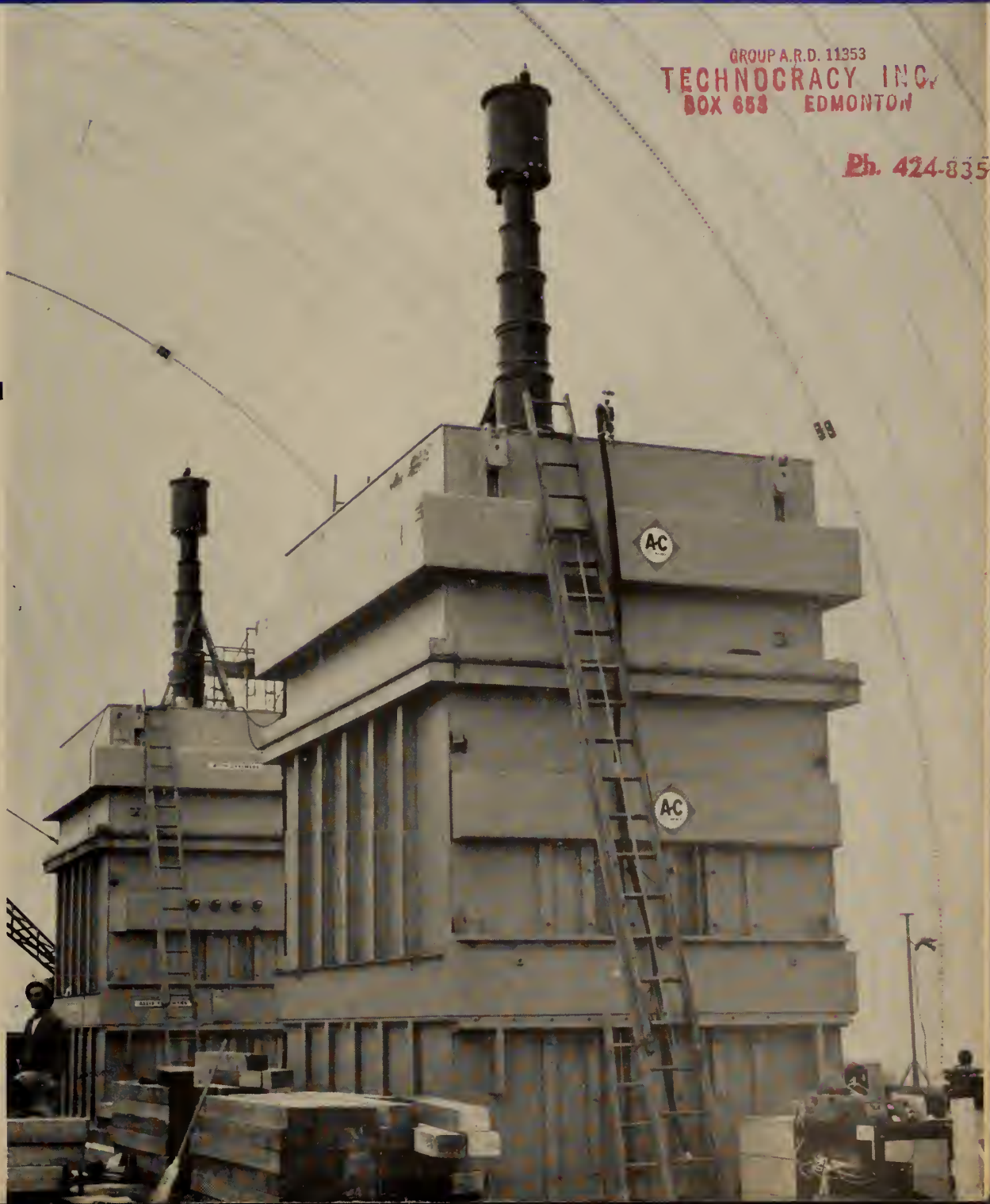
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Technocracy Inc.
Seattle, Washington





Struggle For Social Equality

The N.A.A.C.P. and others who agitate for civil and economic 'rights' for the Negro on a par with those of the Whites and for the abolition of segregation of the Negro in general are pressing a currently favorable advantage in the courts to the point of possible open conflict in the streets. If a race war should break out as a consequence of some miscalculation or inadvertent incident, a lot of people will get hurt and the question of civil rights will be ignored; possibly the integration trend will be given a severe setback. The majority of Americans (of all races and intergrades) are becoming reconciled to the principle of similar civil and economic treatment of all citizens regardless of race or sect (except, maybe, leftists). But among a minority of the population there is much die-hard opposition to social integration, some of it traditional, some of it chauvinistic, and some of it related to economics. There are hotheads on both sides of the integration issue who could spark an open conflict that could then spread to include those who latently oppose integration but would not, themselves, initiate active opposition; and from there it could spread further to include numerous others who are not now emotionally concerned but, in one way or another, would be drawn into it.

The issue of integration on this Continent isn't merely that concerned with Negroes, semi Negroes, and non-Negroes. Most religious sects oppose the integration of their members with those of other sects. (We can imagine the howl that would go up if the Supreme Court should ever order that no church could have more than fifty per cent of its congregation belonging to any one sect.) There is also the issue of integration (especially in marriage) between members of different socio-economic strata. And there are various groups which resent their members being integrated with people of certain other national or semi-racial origins. The integration of the Negroes with the Whites is only one social issue of this sort, albeit the most conspicuous one at present.

A broader issue is that of the 'right' of any

minority to segregate itself, as a minority, from the majority. For instance, shall Black Muslims have the right to segregate themselves as a group from the majority? Or shall the Orthodox Jews, or the Amish, or the Sun Bathers, or the High Toppers, or the Four Hundred, or the Beatniks, or even those with similar B.O. have the right to segregate unto themselves as a minority? There is fully as much voluntary segregation in America as there is compulsory segregation.

Technocracy is a program for all citizens, not for just certain categories of citizens. Technocracy does not take sides in internecine conflicts within the existing social order, nor does it endorse any minority cause. Technocrats resent the denial to any citizen of North America of the privileges of abundance, security, and freedom from toil, regardless of his biological, cultural, or intellectual category. We respect the privilege of any group of persons of similar characteristics to commune together without molestation from other groups. However, we resent (1) any minority attempting to dominate the majority through mass action, (2) any minority seeking to assume control over any branch of public affairs, or (3) seeking to dominate an extensive contiguous area. We hold the position that, if any North Americans want to demonstrate for social rights, let them espouse the cause of all citizens, not just the particular rights of a specific minority.

—Techno Critic



COVER PICTURE

Erection of the giant rectifier transformers, each unit weighing over 460,000 pounds, is proceeding rapidly inside the test center plastic air-house located near The Dalles, Oregon.

—Photo courtesy Bonneville Power Adm.

AGENTS OF DEATH

The advances in promoting health and prolonging life are the result of applied science. Nothing of significance can be attributed to the approaches of superstition and morality to health problems.

NORTH AMERICANS, on the average, are living longer and more healthfully than any population of people in history. The technology of medicine has done wonders to eliminate disease and to counteract bodily malfunction. Still, people are dying in large numbers from causes other than old age. Individuals 'drop dead' when everything seemingly indicates that they have a long span of years ahead of them—from heart attacks, cancer, asthma, shock, stroke, suicide. Part of the cause can be attributed to psychosomatic tensions resulting from the stresses of modern living in the Price System. Much of it is induced by chemical pollutions which are inimical to healthful functioning of the bodily tissues, some of them of ancient heritage, some of recent origin.

The more notorious killers of the past have been greatly reduced. Childhood diseases have almost been eliminated as significant causes of death. Accidents are now the number one hazard to childhood survival. Plagues, which once decimated populations periodically, can now be contained and systematically reduced. Not since the 'flu' epidemic of 1918-1919 have the United States and Canada suffered severely from a plague-like disease . . . Great famines are being minimized in spite of the much greater populations which now prevail, often with the transfer of food supplies half way around the world . . . In modern warfare, the primary causes of death have been aggravated by technological means; but the secondary causes, from diseases and privation (except mistreatment of prisoners), have been greatly reduced . . . Injuries and infections have a much lower mortality rate than former-

ly. More mothers and babies survive childbirth hazards. And various fatal effects of bodily deterioration from aging are being reprieved for many years.

Some people are born with infirmities which are almost certain to result in premature demise in spite of all that can be done for them. Unfortunately, from the eugenic point of view, many of these are able to survive beyond the child-bearing period, hence, where the debilities are hereditary, they are passed on to the next generation. These would be degenerative ailments for the most part, such as diabetes and emphysema. Many hereditary defects, such as susceptibility to specific diseases, such as tuberculosis, poliomyelitis, and diphtheria, become irrelevant when the foreign agents of the diseases are obliterated or an effective preventive or treatment is devised.

The advances in promoting health and prolonging life are the result of applied science. Nothing of significance can be attributed to the approaches of superstition and morality to health problems. Much of the gain in health and vitality is a consequence of improved food supplies and the reduction of fatigue formerly brought on by long hours of toil. These gains, too, are sideline derivatives of applied science. Ancient regimens prescribed for health and dietary 'laws' are all suspect. Some parts of them can be cast aside immediately as absurd in the light of modern knowledge. Other parts need to be checked out through scientific experimentation to establish their validity or impotence. Recent attempts to revive 'folk medicine' or create rational dietary and other health proced-

ures need far more scientific substantiation to be valid than the few testimonials and intuitive conjectures that have been presented in recent popular literature on the subject. Similarly, the claims of commercial merchandizers of food products, medicines, and health-promoting gadgets should be completely disregarded in the absence of substantial scientific verification. The merchandizers have a product to sell, hence their testimony cannot be regarded as impartial and strictly objective.

One of the principal agents of death for people of all ages is accidents. Of these, transportation accidents lead the list, with falls, fires, drownings, poisons, and firearms contributing substantial casualties to the list, in that order. A large portion of these accidental deaths could be prevented with improved designs of cars and highways, of dwellings and recreational facilities, and of mining and construction procedures. What is needed is more CONTROL of safety rather than more regulations. For example, the construction of unidirectional highways is far more effective in eliminating head-on collisions of automobiles than mere regulatory

approaches such as white lines down the middle of the road and appeals to people to drive safely.

Starvation is not a significant cause of death north of the Rio Grande, although it does happen occasionally. On the contrary, more people die from obesity and other complications of over-eating than from under-eating, as such. This Continent is capable of providing an optimal diet for its entire population. It is not a problem of supply but a problem of distribution. The rules of the Price System game stand in the way as the main offender against those people among us who are condemned to suffer pangs of hunger.

Qualitative malnutrition is far more prevalent in North America than quantitative deficiency. It is only within the past fifty years that any substantial advancement has been made in the science of nutrition. The specialists in this study are just beginning to learn what the human organism requires in the way of nutrients and the role these play in bodily function and growth. Dietetics, as a science and a technology, is still in a developmental stage, hence knowledge in that field is inconclusive. Progress has been made, but the extreme complexity of the problem and the presence of sideline complications are slowing this progress to a snail's pace.

Commercial enterprise will make any kind of flamboyant claim that the law will allow for the nutritional value of the food products it sells. It is only recently that food products sold in interstate commerce have been required to carry labels as to contents; even these labels are often obscure since quantities are not stated. More recently, false and extravagant advertising claims have come under federal regulation . . . Commercial enterprise has one primary objective: sell a product at a profit. Secondly, its objectives are to make their products attractive to the buyer and to keep them from spoiling until sold. If it happens that a product is nutritious as well, that is incidental. Commercial enterprisers greatly resent 'busybodies' who agitate for higher quality food products and more honest advertising and labeling.

Another complication, at least in the minds of the public, that dietetics faces is the enthusiasm of nutritional cultists and fadists for certain dietary concepts. These proceed from intuition and folklore more than from experimental evidence in promoting their dietary regimens. Their rationale is often more amusing than convincing to one trained in the

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scientific attitude. They tend to 'substantiate' their claims with selected testimonials of a conjectural nature. When the nutritional cultists have literature for sale or endorse and sell specific products, one has good reason to be suspicious of their motives and objectivity.

Differences Important

A major complication in dietetics is the fact that organisms react differentially to the various nutrient materials. Different species of animals have evolved distinctive physiological processes which permit them to assimilate specific substances and reject others while they react negatively to certain other substances. Likewise, the human species is very complex in its hereditary factors and the varied individuals respond differently to the foods that they ingest. This principle has long been recognized and verbalized in the proverb, 'one man's meat is another man's poison.' What may be highly nutritional and healthful to one person may be debilitating or sickening, sometimes disastrous, to another. No one diet can be prescribed for all mankind. Science is just beginning to analyze this phase of the problem and to devise tests for revealing individual idiosyncracies. Certain foods that are in common usage and are eaten without ill effects by most people may be agents of death to other specific individuals. Often, in combination with other unfavorable circumstances, the offending food may cause one to 'drop dead' in the course of his daily activities or to succumb in his sleep, and the cause of death is often recorded as 'heart failure' in the absence of an understanding of the actual condition. Methods of detecting such allergenic food substances and the circumstances under which they are harmful are still in the preliminary stage of investigation; and what is known is only casually applied in practice by most doctors and health practitioners.

In recent years, attention has become focused on certain poisons which have become pollutants in various food supplies. Some of these pollutants are residues of spraying and dusting operations which were carried out to destroy animal or plant pests, to speed growth, to facilitate harvesting (such as causing a premature drop-off of leaves), to hasten ripening, to give the produce a more attractive appearance, or to inhibit spoilage. The discovery of traces of a certain harmful spray on some batches of cranberries a few years ago caused a near panic among the consumers and the dumping of large

amounts of cranberries, uncontaminated as well as contaminated . . . Sometimes pollutants enter the body by indirect means, such as drifting from the site of application onto crops that are not under surveillance for contamination, or by being ingested by fish or other animals which in turn are eaten by human consumers. The checking of commercial food shipments for such pollutants is very casual and highly inadequate . . . For many years, arsenate of lead has been widely used as a spray on fruit crops. Arsenic is an insidious and cumulative poison when taken into the human body. In recent years, legal requirements have been imposed on the producers to decontaminate the fruit entering the channels of commerce, but these precautions do not safeguard other food crops that may be growing in the drift zone of the spray, nor those which are later raised on the soil where the arsenic materials have accumulated.

One of the most deadly poisons occurring in canned foods is botulism, caused by an anaerobic organism that lives in some soils and survives the cleaning, cooking, and canning process. This is more frequently found in home-canned foods than in commercial batches. A similar organism is occasionally found in meats that have been stored in a closed container.

More Agents of Death

Others agents of death are to be found in drinking water. Some of these are chemicals, such as pesticide sprays, sewage contamination that has seeped into the water supply, or indigenous minerals. Others are organic in nature—viruses, bacteria, amoeba, etc. Such diseases as typhoid, polio, dysentery, and colitis, as well as certain kidney and liver ailments, have been traced to contaminated drinking water. The use of chlorine to purify water and the addition of fluorine to counteract tooth decay have come under considerable attack from certain individuals and groups, but claims of their harmful effects have not been substantiated. All objective evidence indicates that, at least, the beneficial effects far outweigh the harmful effects, if any.

A major hazard to life, health, and comfort is to be found in atmospheric contamination. Plant pollens in the air have long been blamed for certain asthmatic and hay-fever symptoms; yet, many of the details of this problem are still to be worked out. House dust, mold spores, animal dander, feather dust, smoke, and cooking fumes often make

the indoor atmosphere poisonous to persons susceptible to these irritants. Sometimes the harmful effects can be eliminated or reduced by ventilation or air-conditioning. However, many of the commercial devices for conditioning the air are inadequate in this respect. Often they do not exchange indoor air with outdoor air; they remove moisture and heat from the air then recirculate the same air inside the room; also, they usually have a dust filter which for a while is effective in removing the dust but, when it becomes saturated, the dust is merely kept in circulation and is even more troublesome than before.

The outdoor atmosphere is often contaminated by fumes from industrial plants, traffic exhausts, swamp gases, plant pollens, dust, and smoke from fires. Among the more lethal substances in these fumes are carbon monoxide and sulphur dioxide. These and other poisons are often carried by moisture particles in fog and the combination is known as smog. In certain recent instances, smog conditions have killed people by the hundreds; and even on ordinary bad days, in many large cities and industrial areas, the emergency wards of the hospitals become congested with victims. In modern America, it is becoming more and more difficult for a chronic asthmatic to find a place to breathe in comfort. Many others suffer from frequent 'eye irritation' or 'raw throat.'

Tobacco is Agent of Death

An especially prevalent agent of death is tobacco smoke. Perhaps a quarter of the population can smoke regularly without serious ill effect, while about another quarter are made sick and very uncomfortable by it and are subject to serious after-effects from continued exposure; the other half of the population fall in between these two extremes. Since nearly half the adult population are chronic smokers, there is little opportunity for anyone to escape wholly the distressing effects of tobacco smoke in modern society. The city streets, public buildings, most offices, and many homes are places of discontent for those who are sensitive to this type of fumes. Only recently, it is becoming acknowledged in this country that there is a positive relationship between tobacco smoking and lung cancer, although this has been known for some time in other countries, notably Britain where careful research was done on the problem. In America, there are too many profits to be made from tobacco smoking, and the tobacco interests are too powerful,

for this hazard to health to be easily curtailed. In the meantime, those who smoke, or are subjected to the close company of others who smoke, are flirting with trouble.

A newcomer to the agents of death is fallout and radiation from test explosions of atomic bombs. While few deaths can be traced directly to this cause, its widespread prevalence and virulence may well be producing insidious effects that will show up later, perhaps generations hence.

Heart Disease Number One Killer

The number one killer in America today is 'heart disease.' No doubt, much of this death is due directly to intrinsic weaknesses in the heart and circulatory system; other deaths are due to deformities brought on by other diseases, such as rheumatic fever. More often the 'heart disease' is the final step in a sequence of physiological and structural disturbances that result from remote origins. Certain foods and allergens contribute to high blood pressure and to hardening of the arteries which, in turn, put a dangerous strain on the heart and aorta. Heavy physical exertion, especially after long periods of lethargy, overtaxes the circulatory system that is not preconditioned for such strains. The heart may stop beating from gas pressure in the stomach or intestines, or from the sudden chilling by a cold drink on a hot day. Or it may be thrown into fatal disorder by allergens or infectious poisons which disturb the neural regulator of heart action.

The next greatest killer is cancer, an uncontrolled growth of new tissue. Much is being learned about the cause and growth of cancers, but most of our knowledge is still in a tentative stage. In the end, science surely will find a way to cure or minimize cancer, but that day is still in the future. There appear to be two major factors which contribute to cancerous growths: a hereditary tendency toward malignancy and an environmental stimulus to such growth. Hence, cancer tends to be common in some families and scarce in others. Aggravated irritations and severe injuries tend to maximize the probability of cancer, while careful control of irritating causes tends to prevent its development.

Under the haphazard, high cost status of health services under the Price System, only a few people are able to receive a high degree of personalized health attention. Few are able to get proper examinations and prescriptions for the maintenance of a healthy condition from birth until old age.

For reasons of a Price System nature, most people avoid examination and treatment until distress reaches an emergency stage. In the meantime, they may rely on the gratuitous prescriptions offered by friends and T.V. commercials for their advice and directions. At all times, the agents of death are at work undermining their chances for vitality, health, and long life.

In the Technate, the Health Sequence will keep up-to-date a complete medical record of every individual and, thereby, be able to utilize to the fullest, in one's behalf, the knowledge of science on the subject of bodily function and health as it applies to him personally. Thus, it will be possible

to prescribe a healthful regimen for each individual, for his idiosyncracies will be known. While that fateful statistic, 'of every hundred people born one hundred will die,' must still prevail in the Technate, at least, the proportion that will live out a full and healthful natural life will be greatly increased over the present. Not only will the agents of death be reduced to a minimum but their effects on the individual will be counteracted to the maximum under the technological control of the Continental health problem by the Health Sequence of the Technate.

—Wilton Ivie

The Amazing World of Energy

Have you ever wondered why the United States has the highest standard of living in the history of mankind? Many people would say it's because of our national resources, or our favorable climate, or our economic system. But experts tell us that the best answer can be provided in just one word: energy.

The United States, the world's first nation in standard of living, leads the world in producing energy and in using energy. And unless we continue to expand our production and use of energy, economists warn, we may be headed for trouble.

Energy is the capacity to do work, to move things, to make things start and stop. Common sources of energy include, of course, coal, oil, gas, electricity, and so on. You may have never thought of it, but all energy comes—directly or indirectly—from the sun. The hamburger you eat once ate grass, and grass needed the sun's light to grow.

Mankind's progress from caveman days on can be roughly measured by seeing how much use man made of energy.

Donald C. Samuel, president of the Energy Fund, an open-end mutual fund that concentrates on energy stocks, points out that 'Energy requirements for each person in 1850 amounted to the equivalent of 4 tons of coal; in 1961, each man, woman, and child consumed the energy equivalent of 10 tons of coal.'

One reason we use energy is to do less work ourselves and have more time for recreation. A

hundred years ago, for instance, farmers worked from dawn to dusk, and factory workers toiled 16 to 20 hours a day. Now, working hours are being continually lowered. Machines, which run on energy, do the work for us.

Another reason we use energy is to get more work done.

Compared with the force of energy, Man is puny indeed. As Vice-Admiral Hyman Rickover has said, 'Man's muscle power is rated at 35 watts continuously, or one-twentieth horsepower.'

But with machines and with energy, Man becomes a giant. Admiral Rickover notes that, 'Machines . . . furnish every American industrial worker with energy equivalent to that of 244 men, while at least 2,000 men push his automobile along the road, and his family is supplied with 33 faithful household helpers. Each locomotive engineer controls energy equivalent to that of 100,000 men; each jet pilot, of 700,000. Truly, the humblest American enjoys the services of more slaves than were once owned by the richest nobles and lives better than most ancient kings.'

In the years to come, Americans will be using prodigious amounts of energy, predicts Mr. Samuel, a partner in Ralph E. Samuel & Co., the New York City brokerage firm which manages Energy Fund. By 1980, he says, total use of energy in the United States alone is expected to nearly double that used in 1960. Total consumption of electricity is expected to be roughly three-and-a-half times that

used in 1960. Twice as much coal will be used, and almost twice as much gas. The demand for oil should be about two-thirds as much again as we use today.

'These astounding projections for energy demand,' says Mr. Samuel, 'are not difficult to fathom. In 1850, the population of the United States totaled 23 million. Today it stands at more than 180 million. And the nation of 250 million persons envisioned by 1980 will have a two-fold impact on energy demand: not only will large numbers of people need larger amounts of energy, but each individual will consume more energy than his father did twenty years ago.'

Nowadays, Americans use more complex products than ever before, and take advantage of more complex services—which demand an increased use of energy.

'As a nation's standard of living rises,' Mr. Samuel says, 'its consumer products tend to change in quality and form, from those which are simple in construction to those which are more complex, requiring more intensified processing.'

'The use of glass, rather than waxed paper; nylon and rayon instead of cotton or wood; frozen foods rather than fresh foods; and plastics rather than wood, thus requires more energy. And such barometers of high living standards as automobiles, home appliances, jet aircraft, and the industrial plant for their production are all insatiable energy consumers.'

If Americans are to keep up their high standard of living, sources of energy must be increased. Conventional sources will have to be exploited to the full; new sources found.

Energy from the sun, nuclear energy, ocean tides, and the heat from volcanos from the earth's interior are already providing usable amounts of energy. And considerable promise is also given by such unusual energy sources as thermionic converters, thermoelectric and magnetohydrodynamic generators, as well as chemical and even bacterial fuel cells.

All it will take is time . . . and energy.

—Precis



FURNACES SHUT DOWN

BUFFALO, N.Y.—The Bethlehem Steel Co., has shut down six furnaces at its plant in nearby Lackawanna since last week and is in the process of closing another, the Buffalo Courier-Express says.

—Associated Press

Will Krushchev attempt to 'bury' the United States with an inch?

There are scientists and university professors who believe that unless this country abandons the inch-pound for the metric system, the outcome of the cold war will indeed favor the Soviet Union. One Scientist has labeled the inch Mr. Khrushchev's 'secret weapon.'

Supporters of the conversion to the metric system argue that not only most of the emerging nations but also many of the well-established ones use the meter, the gram and the cubic centimeter. Thus, they will naturally prefer machinery and industrial equipment geared to the metric system.

Metric supporters fear that unless the United States converts, this country will be shut out from fast-growing markets abroad. The metric 'lobby' is behind three bills introduced in the current session of Congress. These bills would, if approved, lead the United States down the conversion to metric road.

There is, however, strong opposition to conversion, mainly in industry and among engineers. While admitting to shortcomings of the inch-pound system, they oppose conversion because it would cost United States firms between \$25 billion and \$150 billion and would take 20 to 40 years.

Such an effort, the opponents argue, would provide just the brake on the economy that would give the Soviet Union its chance to overtake the United States in the commercial production or 'peaceful coexistence' race.

The case for the metric system is that since it is based on multiples of ten it is easy to learn and simple to apply. In the inch-pound system often special charts are required to obtain the relation between the various units, for example: $5\frac{1}{2}$ yards equal one rod; 40 rods equal one furlong and eight furlongs is one mile, which is also 5,280 feet.

Middle-grounders have proposed that the inch be subdivided into ten equal parts rather than the traditional fractions.

The decimal inch already is used in certain segments of American industry but its use is not general.

The decimal inch appeals to many because it will cost comparatively little to convert to since no actual measures or machinery would be changed; only the names of the measuring unit would.

—Seattle Times

LETTERS TO THE EDITOR

Dear Editor:

At the recent four day Pacific Northwest Assembly at Cottage Grove you were a leader of one of the discussion groups, therefore you are somewhat informed as to the effects of automation on our social system. By now you have probably become aware of something that members of Technocracy Inc., have known for several years. The American people, generally speaking, are completely apathetic to any of the vital forces that might affect the little orbit of their existence. They have become not only the most apathetic people in the world, but are becoming the most pathetic. For over twenty years they have been brainwashed with the propaganda that 'Machines Make Jobs.' The spokesmen for corporate enterprise, the national association of manufacturers, the trade journals, radio, television and most of the newspapers have 'plugged' this siren song. It was even taught in the schools. The facts were contrary to this propaganda, but the job was so thoroughly done that even the so called labor leaders fell for the line. Now, that they see the error of their ways the AFL and CIO are trying to promote a 35 hour week. As usual it is too little and too late. At best it can only be a stop gap expedient, and will be an incentive for business to install more automation. It will only postpone the inevitable.

Another interesting fact is that a majority of the men working on the installation of automatic equipment refuse to face the fact that the equipment they install is displacing man hours.

And now these same sources of mis-information face the prospect of informing the American people that there isn't any Santa Claus. They will have to tell them that they either misrepresented the facts or they did not know the facts. As no one likes to admit error, very probably nothing will be done and America will just drift.

Technocracy Inc. is a pioneer in the field of socio-economic research. Technocracy Inc. is an educational and research organization, and since prior to its incorporation, as the Technical Alliance, has spent more than forty years in the study of Technology and its offspring automation; and the effects of their accelerating impact on our social system, the Price System.

Technocracy Inc., wishes to point out that the problems of automation and technology can not be solved on a statewide basis. Neither can they be

solved on an industry basis. They can be solved only on a nationwide and continent-long basis.

As more and more automation is installed in industry and commerce, it is writing Mene, Mene, Tekel, Uphsarsin across the face of the Price System.

America faces the greatest social change in the history of mankind—the downfall of the Price System, the end of a social epoch.

Barring a Thermonuclear holocaust, America today stands at the crossroads. She can either go forward to the greatest civilization the world has ever known, or she can sink into depression, chaos and disaster. Time is fast running out.

The report of the Pacific Northwest Assembly states 'It is the task of this generation of every person, every organization, every institution, public or private—to assist in the transition and extract the promise from the threat.'

At the assembly the question was posed:—'How can we prepare society for the envolving technology which will bring such acute problems as unemployment, etc.'

Technocracy Inc., wishes to point out that for over thirty years the organization has conducted public meetings, sent authorized speakers on tours back and forth across the Continent, held study classes and discussion groups, published three magazines and a news bulletin besides distributing many thousands of pieces of literature in an effort to inform the thinking North Americans of the physical trends that are affecting their lives.

I am inclosing several Technocracy Briefs, that I hope may be of some interest and help to you. As a leader in your field you will need all the help you can get. I have taken the liberty of having three pamphlets published by 'The Center for the Study of Democratic Institutions' sent to you. These pamphlets 'Consumers of Abundance,' 'Caught On The Horn of Plenty,' 'Cybernation—The Silent Conquest' are the result of intensive study and research. Incidentally, the information contained in 'Caught On The Horn of Plenty' was published by Technocracy Inc., over twenty years ago.

Very truly,

Elliott R. Sands

Organizer

3216 N.E. 73rd Avenue

Portland 13, Oregon

—From Pendelton East Oregonian

TECHNOCRACY IN THE FIELD

The Members of Technocracy apply their efforts in various ways to bring to the attention of all North Americans the significance of the present social trends and the need for a technological solution to the problems which arise out of them. They realize that only through their activities and efforts is the public made aware of Technocracy's Program.



An intently interested audience listens as Technocracy Speaker Harry Briggs talks of technological power and social change.
—Techphoto by Berge

Operation Wenatchee

Members of Technocracy Inc. in the Pacific Northwest were pleased and encouraged with public response to the symbolization-public meeting activity in Wenatchee, Washington last June 29 and 30. Wenatchee, the heart of the apple growing country of Washington State, is an important link between Spokane of the eastern Washington interior and the coastal cities.

Staging the activity in Wenatchee afforded the opportunity for Technocrats in the interior to meet and socialize with Members from the Western Washington Area, and to cooperate in Technocratic activities.

Approximately twenty Official Gray Cars motorcaded to Wenatchee Saturday when, during the afternoon, symbolization and advertising of the Sunday public meeting were carried out. Dinner and a brief Membership Meeting followed, and rounded out the day.

Publicity efforts for the public meeting were rewarded by a full auditorium at the Public Utilities District building. More than one-third of those

attending the meeting were non-members. A goodly number of expression-of-interest cards and a Membership application resulted from the meeting. Section Director Harry Briggs, of 12247-1, Everett, Washington, spoke on the subject, 'People And Power,' which traced the development and use of mechanized power and its social implications at the present time. The central point of the address was that the irresistible force of power in the form of kilowatts and horsepower is bringing North America into social change, which in turn is compelling the arrival of a technological social control—Technocracy.

An interesting aspect of the two-day event was the manner in which accommodations were handled for the Members. This 12247-1 sponsored activity provided for overnight lodging and four nourishing, tasty meals at a total cost of \$6.00 per person. How did they do it? The details are too lengthy to report here but the Organization and Socials Committees of 12247-1 can supply them.



Official cars in front of Wenatchee Public Utilities Department symbolize for Technocracy and advertize meeting.
—Techphoto by Berge

New Headquarters for Technocracy

The symbol of Technocracy, the Monad—three feet in diameter, now fronts the new headquarters of Section 15. The location of the new SHQ is on the main thoroughfare and the 'business street' of Cleveland—Euclid Avenue, near one of the busiest intersections of the city. In an area of 'small

business enterprises,' despite their flashing neon signs, the large two foot high letters of 'TECHNOCRACY' mounted on a fifteen foot white backboard; dominate the area with authority. At night they are high-lighted with spot lights, again commanding attention by passers-by, whether walking or riding.



Outside Section 15, Cleveland, Ohio



Inside Section 15
(See next page)

Ashtabula's new unit headquarters of Technocracy Inc. is located on the north side of Prospect Street at the westerly terminus of a new rail-overpass over which U.S. Route 20 will be re-routed. A large monad and the word 'Technocracy' are illuminated in the evening by a time clock and, being about six blocks westerly from the center of a town of approximately 30,000 population, and on a thoroughfare traveled by almost everyone in the city during the course of any given week, have attracted a great deal of attention.

Members of Technocracy in Ashtabula, Ohio, find the new unit headquarters a valuable facility in their efforts to promote the continental concept of Technocracy.

(See back cover)

THE IMPORTANCE OF SHQ SYMBOLISM

Because one of the prime aims of Technocracy is to condition the North American public for social change, a well-identified and staffed Headquarters is highly important to the Organization. Many hundreds of people milled around the 12247-1, Everett, Washington Section Headquarters during the July 4th parade in that city. Located on one of the main streets of Everett, 12247-1 has for twenty-two years maintained its present quarters and, under the present increasingly severe social conditions, notes a steady increase in inquiries about Technocracy.



Large numbers of people congregate around 12247-1 Headquarters during July 4 parade. —Techphoto by D. Livingston

SCIENTIST HITS MOON FUNDS

Washington—A leading scientist takes issue with vast spending to land men on the moon. He said science is being used as a front for new-style work-relief projects designed to bolster the U.S. economy.

The question whether science can 'maintain its ethical standards and vitality' in view of the huge sums being pressed upon it was raised by Dr. Philip H. Abelson in a prepared talk at the University of Maryland in suburban College Park.

A noted physical chemist, Abelson is director of the geophysics laboratory of the Carnegie Institution and editor of 'Science,' the magazine of the American Association for the Advancement of Science.

His remarks pointed up uneasiness in a section of the scientific community over the huge space program, with its proposed budget of \$5.7 billion for the next fiscal year alone.

Abelson recalled recent remarks by Vice President Lyndon B. Johnson, head of the government's space council. Johnson said space research is starting an 'historic new boom' on earth, creating new industries, new jobs, new products.

'What we are witnessing,' Abelson said, 'is the expansion of a new sophisticated form of the pre-war Public Works Administration. Science is being used increasingly as a 'front' for technological leaf-raking.

'The public is being taxed at fairly high rates. It is very doubtful today if old-fashioned public works would be politically feasible. The manned lunar project can be advocated and sold on a basis which is rather difficult for the average citizen to evaluate.

'In the present climate of international relations and in view of the general awe that is felt toward science, the ordinary man feels he has no recourse but to go along with national leadership.'

Abelson, of course, is not opposed to space exploration. What he does question is the expenditure of great sums—\$20 billion more or less—to land men on the moon in this decade.

He suggests that stress be laid first on exploration of the moon by unmanned craft and electronic gear. This, he says, would be far cheaper.

—Associated Press

Educating For Our Changing World

By steering the safe course away from all controversy, we have managed effectively to create what William Lederer calls a 'Nation of Sheep.' Those responsible can also congratulate themselves that they have succeeded in tying the clapper to the bell in the old town hall—but few realize that by so doing the Liberty Bell was also stilled: and only the sordid clink of money can be heard in what we do.

IN AN ERA when Americans should be rejoicing in the fruits of their own inventiveness, change is lapping with such ominous threat at all our doorsteps that most of us feel little jubilation—only a gnawing fear of the future. As business failures multiply; as the unemployment rolls lengthen; as little farms are swallowed up by big ones, and as war hangs relentlessly over our heads, every segment of our society seems to stand on the quaking ground of uncertainty.

Workers especially face increasingly uncertain odds as job opportunities diminish and relief and security funds are dissipated. For as jobs are taken over by machines, often there is no other for which the disemployed worker is fitted. Hence the problem of the man so idled is not confined to economics, but also involves sociological and psychological factors. This is to say, it involves everything about him.

Fortunately of late, Americans in increasing numbers are beginning to reexamine critically our economics in all its aspects and to assess its effectiveness in relation to their own lives. Manifestly something is bringing a threat to them and some of these have concluded that if our own way of life creates problems which it is incapable of solving, the solution must be looked for elsewhere. And most Americans are not expecting in either hope or despair, to find the answer in some other worn-out, discredited and foreign social system—or that we must be taken over if our present operation breaks down. They are looking for an efficient American solution to our American problems.

The advance of technology is no longer limited to the fields of production where it is making such devastating strides into the blue collar jobs. It is also making deep inroads into areas never before invaded too deeply by machines. The white collar workers in the managerial, supervisory and service fields are falling before the computers like wheat before the reaper, and not only in the business world. Clerks, accountants, typists and stenographers in administrative offices of cities, counties,

states and national government are rapidly losing their jobs to machines. Even the Pentagon generals have to base their gravest decisions on the work of the computers.

In this reassessment of our economics, one of the functions which is getting an especially hard look is our educational system. Since our problems are rapidly multiplying, we must conclude that our educational system also is involved in these problems. And to confirm this conclusion, more and more voices of anxious educators and government officials are being added to those who warn of the dangers of ignoring our educational trend. They point to the over-crowded classrooms and inadequate facilities. The deplorable results can too often be found in our increased unemployment, delinquency and crime. Mr. Celebreeze, head of the U.S. Department of Health, Education and Welfare has said that our educational condition calls for action now. And since the educational system is the fulcrum upon which the whole society rests, failure in its cardinal objective—that of giving youth the means by which it can make its way in our changing world, can only mean that it has also failed society as a whole, and that it must be changed.

Unfortunately our school system, as are most of the functions of our society, is closely tied to, and controlled by, business-oriented politics which, by its self-perpetuating nature, hampers and obstructs social progress. This is not new. Such control has always existed in our society, and, in the interest of maintaining the status quo, is the very warp and woof of the Price System. But as long as the advance of science maintained a slow pace, this control exerted little damage to society as a whole or to education which was then more or less adequate to its task.

The impact of technology did not intolerably alter the tempo of social progress until prior to World War II, when Americans were brought to actual grips for the first time with the fact that something was seriously wrong with the American

way of doing things. We had had panics and depressions before, following peaks, but somehow this was different. Disheartened and dismayed at the frightening spectacle of 15 million unemployed, the nation broke out in a rash of social rebellion. Fragmented groups with an equal number of ideas as to how to cure our ills, rose in clamorous demand that something be done about it. Many suggestions, all to be applied within the framework of the Price System, were put forth—such as, ‘throw the rascals out,’ ‘redistribute the wealth,’ and even frantic pleas to ‘stop all invention.’ (In the light of the danger which has come from splitting the atom, there are many who would, with clear hindsight, agree that the last suggestion made the most sense.)

Technocracy alone brought to the attention of those Americans who would hear, the thesis that our social order of scarcity must give way to a scientific control consonant with the abundance which our high-energy technology can produce. Technocracy clearly stated that failing this, Americans must content themselves with a perpetual state of war, hot or cold, to preserve the Price System until it would ultimately bring us all to extinction. Technocracy also introduced to Americans its design for a functional control known as THE TECHNATE.

As conditions steadily worsened, with surpluses growing ever higher, with increasing embarrassment to our economy, experimentation was resorted to. Machines were slowed down to produce only a scarcity. But this resulted in rising unemployment with less purchasing power. Even with prices pushed down by the abundance, much of the production could not be bought. Crop controls were hopefully adopted to prevent the enormous farm surpluses. This but inspired greater farm efficiency, so that more was produced on less acreage. Other expedients were used. Over-production was buried, burned, stored and shipped away, often to rot on foreign docks. We kept telling ourselves that this was the ‘American Way,’ and the best: that we of the whole world had the greatest ability to produce and the greatest scientific know-how. But somehow we neglected to let our children see us apply that science to the distribution of more of the abundance than it required to keep life in the unemployed and the destitute.

World War II Savior

World War II came in the nick of time temporarily to rescue our economy from total collapse. Out of the doldrums America suddenly came alive.

Every able-bodied American either went into the armed services or into war work. The dangerous clamoring for social reform was effectively hushed. Caught in the deluge of free-flowing government money and the fever of ‘our cause,’ the entire population gratefully applied itself to winning the war. Most felt we had fortuitously been rescued from a fate worse than death—social change.

After the war, through which we came with flying colors and losses minute compared with those of either friend or foe, and without physical damage to our homeland, we were once more irrevocably ‘sold’ on Free Enterprise. We were well-heeled with billionaires, government subsidized plant and equipment, and with bank accounts down the line.

It was only when the bank accounts dwindled away under the exorbitant prices for everything following the war, that Americans began to remember the facts of life; that production with its profits has to stop sometime, but that the astronomical debt which had been laid on the shoulders of the taxpayers would go on forever: that the only real winner of any war is business whose pockets were bulging with profits.

Price of Peace

Under prolonged peacetime, once more our economy began to falter. Even with a big program of government spending things slowed down dangerously. Once more it became nauseatingly clear that our surpluses would ruin us. In order to absorb the monstrous output of the increased capacity of the machines, we entered an era of the ‘big sell’—to Americans, that is. To the rest of the world we gave it away. Americans by the million allowed themselves to be diverted from problems which seemed too big for them to do anything about. They became devotees of trivia and such entertainment as was to be had out of their new rage, the TV. And over this came hammering pleas to buy-buy-buy the products of the machines. With it poured out our favorite propaganda that only the ‘American Way’ can guarantee freedom. We became a nation which cared more for how we looked and smelled than what we were; which was more concerned with how we acted in public than with what we thought; and with what we were able to get for ourselves than with how we got it. Materialism permeated every facet of our society and along with the rest, the educational system became a bulwark of the status quo.

Abandoning the goal of turning out self-disci-

plined citizens of high moral fiber with a workable knowledge of the world into which as adults they would emerge, our schools began to turn out sports-minded people most of whom lacked the ability to think objectively, to question or to investigate, but who were avid for the products of the machines and firmly aligned with the business system and the status quo which they had been taught to revere. Somehow they had lost their sense of humor—and could not see the grim irony in their deploring the ‘slave states’ of other nations, while for the sake of the status symbols their society demanded, they chained themselves to jobs which they often hated, and also, to never-ending debt. Somehow, too, the lesson had been omitted which would permit these young people who came out into a changing world to see the abundance we could produce as something rich in their heritage, as something achieved and to be enjoyed by all. Instead of a blessing, it was allowed to become in their eyes, as in those of older Americans, a curse and a dilemma.

We had come to the point of no return: we could not go back. The thought of going forward into the unknown paralyzed our leaders and most of our people; for it meant throwing off the shackles of our historically moral concept of scarcity which involved some of our dearest folkways and habits. So we learned to look upon the hard core of unemployment with tolerance, as a minor price to pay for the blessings of a ‘free’ society, ignoring the creeping signs of failure in that society. But the basic trends continued to move with increasing force against the established order and to push us ruthlessly toward yet another major adjustment.

Recourse to War

However, with the precision of practice, and again in the nick of time, another good old war appeared to ‘bail us out.’ The Korean War, hailed for the return of generous appropriations, and welcomed for its fat contracts and lush wages, brought to all who stood to gain by it, renewed faith in the social system. It had the added advantage of again siphoning off thousands of our idle restless youth, who otherwise could stir up trouble. But little thought was given to those who stood to lose everything by it.

By the end of the Korean fiasco we had definitely learned that war was good and that peace, which threatened war—therefore jobs and profits—was evil and not to be tolerated. We used all

mediums to strengthen this idea. It became good American practice to build up this theme in press, pulpit and school under the name of Christian-American-Patriotism. Peace, the symbol of Christianity for over two thousand years, went silently down the drain.

Cold War and Profit

To maintain profits after this war, it was plain to be seen that we must never stop producing that most profitable item of all, war hardware. But to make this production credible to the people who were to shell out the billions for it, it was necessary to have a target for this hardware. This in turn required a credible threat to us from outside. We definitely had to have a permanent enemy to keep this good thing going. Our one time ally, Russia, served handily as the enemy, and the cold war was on.

The school was an especially good place to extend one philosophy of our cold war’s semantics to pliable young minds. All over the country teachers dedicated not only to their profession but to the ideal of truth, dissented. And guilty only of sanity in an increasingly insane world, they were, most of them, divorced under the black cloud of subversion, from their posts and from their profession. One of the results was that any right-minded bright American youngster kept his mouth shut if even a slightly controversial thought invaded his head. And naturally, not being able freely to express his ideas, his thought processes gradually atrophied and apathy took over.

School curricula, barring all dynamics, emphasized the innocuous. Sports took ascendancy out of all proportion over the academics. Social education for the most part became a mish-mash of the unimportant. Paced to slower minds, studies reflecting the wishes and narrow ideas of the Boards of Education discouraged as something un-American anything which questioned the perfection of the American Way of Life. Subtly it was impressed upon our youth that war was not only necessary to our way of life, but acceptable and desirable. Applause was given when the credibility of war was tested by our politicians as in the Cuban crisis up to the very doorstep of humanity’s extinction. At the same time youth was given to understand that any proposed correction of our growing social ills was socialistic, if not communistic poppy-cock, and not to be thought of.

So, through the foregoing circumventions was

the curious mind of youth bent and diverted from its normal path of investigation of its world; and by so much has social progress been defeated and intellectual stagnation on a national scale been assured. For in the education of our young as we have carefully developed the safe patter of trivia, we failed to unfold to them the deeper aspects of our way of life through honest analysis, thus denying them the discovery of where that way of life is leading us. By steering the safe course away from all controversy, we have managed effectively to create what William Lederer calls a 'Nation of Sheep.' Those responsible can also congratulate themselves that they have succeeded in tying the clapper to the bell in the old town hall—but few realize that by so doing the Liberty Bell was also stilled; and only the sordid clink of money can be heard in what we do.

Of late, however, amid mounting conditions of deprivation and breakdown which are building up in the absence of any valid reason for war, there is a heartening stirring among our youth. One small indication of this awakening came recently in the report of groups of high school students who were answering questions put to them by their school board regarding their ideas about the profit incentive. To the credit of 61 percent of those questioned, they believed that the profit motive was not necessary to the functioning of the American system, nor that the average man's personal freedom would be affected by government price control. But even this amount of thinking, based as it was on the meager facts obtained in press and school, was so at variance with the established order that it brought dismay to the school board in question, which unanimously regarded this response as *prima facie* evidence of 'pure ignorance which must be firmly and immediately stamped out.' So no doubt in our manic obsession with preventing social change at all costs, the concept of social change will for some time remain a vile and communicable disease, unless youth takes his destiny into his own hands by actively revolting. In which case, schools will be compelled to prepare our young for the world which exists for them, instead of turning out the largest crops of brainwashed mediocrity the world has ever witnessed.

Price of Failure

There is no doubt that for the failures of our educational system American youth pays the heavy

est price. Coming through this mental reducing plant he is not only squeezed dry of initiative, but emerges with a negative outlook born of frustration and fear of war. He is completely unready for the world which confronts him. Granted that he is technically prepared for a job he may be able to find, he has not been prepared to meet the tremendous and constant changes taking place in our world today. The basic trends of his world are largely unknown to him and when he loses his job, an eventuality which is overtaking one million of our American workers per year at this time, his very foundations are ripped out from under him and he is helpless.

The lack of challenge in our education shows up in the bright youngsters who drop out of school at the rate of over a million per year. They are lost not only to themselves but to society forever. And one must shudder to contemplate how many doctors, how many scientists, how many technologists, engineers and other needed skills are thus lost. It could be that one of them carries the needed cure for cancer.

Other grim statistics pertaining to our youth cast doubt upon the worthiness of our education. Evidently so lacking in the teaching of the fundamentals of social living and those elements which go into the building of character, our youth fall prey in unbelievable numbers to dope-addiction, juvenile delinquency, venereal disease, illegitimacy, crime, insanity and suicide, all of which have increased staggeringly in the past five years.

Technocracy's Position

Technocracy states that it will not be possible within the framework of the Price System to support an educational system which is consonant with the needs of our technological and atomic age. Government assistance to education will continue to be anathema so long as politics and business are in the saddle; and there will remain, in connection with schools, the same old invitation to venality and crookedness, even though their results are disastrous to society and youth. An instance of the tight control in education can be seen in the medical field where many youngsters aspiring to enter that field were thwarted in getting the education necessary for it. This has come through the interference of organized medicine in an effort to keep its own product, medical care, scarce, therefore costly. But of late there have been outcries from the furtherseeing members of the

profession. These realize that the growing dearth of doctors in a rapidly expanding population spells havoc. They are calling for the training of more doctors at once.

For years Technocracy has recognized all the foregoing social ills. It has emphatically warned that none of them can be overcome except through complete social change involving the entire North American Continent; that until this is done, only symptoms of our outworn system can at best be ineffectively dabbed at.

Technocracy also recognizes that change will not come easily to the minds of men. Although Americans have come through one hundred years of unprecedented transition from a hand-tool to a technological age, we still resist the very thought of a scientific social change. We are not alone in this reluctance to change among the various species. We share this dubious honor with the dinosaur, the mastodon and the saber-toothed tiger, each of which died as a species rather than change. But Americans will soon be called upon to make a choice as to whether we will go on to annihilation or reverse our direction toward survival and the abundant life.

Our choice, either intelligent or stupid, will depend upon the sum total of our knowledge of the facts pertaining to our world. And this in turn depends upon the education we receive.

Through the ages those who sought to bring progress through the enlightenment of men's minds were often pilloried, burned at the stake, or exiled. But Technocracy wishes to point out that this did not stop either the progress or the relentless change. As modern Americans who have reached an entirely new plateau of living than even our grandparents knew, and in which we accept without question the shiny cars and household gadgets, we will have to learn to accept yet another fact: that in order to keep what we have achieved, we will have to go the full way with science. There is no place to stop. It will not be easy for many of us to overcome a reluctance; and for this fear and hesitation, our schools are to a considerable degree responsible.

Function First Requirement

Technocracy in its design for a functional control, proposes a completely different educational system than any ever used by man. Contrary to the one we now have, which limits and stifles the questing mind, Technocracy's program will

make the widest possible use of every existing facility on the North American Continent in order that every person may find everything he wants to absorb. That every potential within the individual be developed fully, Technocracy's aim will be not to elicit subservience to set ideas, or to place our youth into moulds or to enslave their minds for the purpose of profit.

Adults as well as youth will participate to the limit of their capacities and desires. No monetary consideration will enter into the picture, so there will be no waste in providing buildings and supplies. No 'pay-off' will eat into the quality of either.

Youth until age 25, when they will start contributing to society, will learn in many ways beside in school rooms and out of books. They will travel widely in order to investigate everything and every facet of our society and industry, be it mining, farming, forestry, or production in all of its phases. They will go into mountains, into forests and onto the sea. They will have the opportunity to test every altitude and climate, indulge in every sport (not merely watch), read every book, and pursue every channel of learning and experience. Through such opportunity the young, when they come to society as contributors, will present not lop-sided, half-prepared adolescents, but well-rounded knowledgeable citizens with full awareness of the world and their place in it. No hungry unemployment lines will meet them. Their participation in home, industry, arts, society, purchasing power and the abundant way of life will all be assured to them from birth to death.

Technate and Living

Life in a Technate will take on a new meaning and a new challenge. Rewards far more satisfying than 'buck-chasing' will be possible. As part of the preparation for adulthood, all youth will be educated in ways of using their increasing leisure profitably to themselves.

Also, in a Technate youth will emerge into a life free of the burdensome problems which overwhelm most of us today: taxes, and the many fears—fear of loss of possessions—fear of loss of job—fear of loss of health—and loss of status—and always the fear of destruction by war.

Status along with debt will be a thing of the past. Life will move at a leisurely pace bringing the chance to savor and enjoy rather than the necessity to fight and endure it.

Another interesting phase of the educational

program of the Technate is the consideration it gives to the brightest youth of other nations. Admitted as they would be under quotas from each country, they would be invited to participate for five years as our guests, enjoying full privileges, including purchasing power. After a few years a steady stream of youth would be flowing to and from our country to broaden the horizons of all. Human understanding would be increased and peace would be assured. And, too, as imported youth returned to their homelands, with them would go the knowledge of how their own people could attain a better way of life—one that they would be glad to strive for.

But perhaps the best thing of all is that the

whole population in America will advance and progress through the education which a Technate will make possible. No longer will there be several millions of Americans, as is the case now, who cannot read their children's report cards or the direction on medicine bottles. The best education cannot fail to be the safest route to progress.

It is thus that our youth can learn not only to serve their own needs and the needs of their society but also to set an example to the rest of the world. And it is about time we got started on this! For until we have cleaned up our own social chaos, what we say to the rest of the world cannot be heard above the noise of what we fail to do!

—Jeannette DeLeon

World-wide Interest in High Voltage

Electrical engineers in all corners of the world will have their eyes on the Pacific Northwest in 1964 and 1965.

Focal point of their attention will be Bonneville Power Administration's \$2,000,000 high voltage direct current transmission test center, first of its kind in the United States.

A huge, air-supported plastic dome, 200 feet long, 100 feet wide and 58 feet high, sits atop a sagebrush-covered ridge five miles east of The Dalles, Oregon. Inside the plastic bubble, BPA engineers are supervising assembly of the massive rectifier units and installation of the intricate components of electrical testing equipment. Completion is set for September 15.

The two-year test program is an important element in America's contribution to technological leadership in direct current power transmission. It will expand into higher voltages research already being done in Sweden, Denmark, France, Great Britain, Italy, New Zealand, and Japan.

A dream of Bonneville's first administrator, J. D. Ross, for transporting power from the Columbia River as far as Chicago by means of direct current transmission is on the way to realization.

The new technique of power transmission will make transportation of large blocks of energy over distances of 1,000 to 2,000 miles economically feasible.

Technical soundness of low voltage direct current transmission has been established for well

over half a century. Application at extra high voltages is at the present time limited to the few places in the world where there is a need for moving large amounts of power over long distances or where submarine cable is necessary.

A direct current transmission line costs less to build than an equivalent alternating current line. Direct current requires only two conductors, compared to three for alternating current. As a result substantial savings are possible because of lowered requirements for insulators, conductors, steel transmission towers and lands for right-of-way.

On the other hand, direct current terminal equipment is costly. The economic crossover point is where transmission line savings will pay for the more costly direct current terminal conversion equipment. Presently this is at approximately 400 miles. For distances beyond 400 miles, direct current becomes more economical in proportion to the increase in transmission distances. Other advantages of direct current include precise control of power interchange and added system stability.

Today's technological advances with giant new 1,000,000 kilowatt steam plants and even larger hydroelectric plants make extra high voltage transmission facilities inevitable. The economic advantages of power pooling, exchange and coordinated operation, finds plans for interregional and international transmission lines on the drawing boards of all the world's major utilities.

Long distance direct current transmission at super voltages is expected to be a key factor in feasibility of interregional power grids, power marketing problems involved in final ratification of the Canadian storage treaty and development of Alaska's 19 million kilowatts of hydro potential.

U.S. manufacture of electrical equipment is moving into design, testing, and production of large capacity direct current converter and terminal equipment with the aid of techniques already perfected in Sweden and other European countries. This activity is expected to lower costs which in turn will permit wider application of direct current transmission.

BPA's testing center utilizes a five-mile test line of direct current conductor about two and one-half inches in diameter. It will provide data to help establish standards for insulation and conductor spacing and size. Conductor radio noise problems, insulator contamination, leakage and flashover phenomena will be investigated.

Two giant rectifiers and transformer assemblies, each weighing over 460,000 pounds and standing up to 40 feet high, are the heart of test facilities housed in the plastic shelter. Power from the adjacent Big Eddy substation will be converted from 13,800 volts alternating current to 1,100,000 volts direct current. Combined with the test line, the facility will produce the electrical voltage stresses associated with actual long distance direct current transmission.

The air-supported plastic dome, largest in the Pacific Northwest is made of fire resistant vinyl-coated nylon and weighs only 7,000 pounds. Five to seven pounds of air pressure per square foot supplied by large electric fans support the unique structure. It will withstand winds of 100 miles per hour when inflated to 20 pounds pressure. The plastic dome cost \$29,000—about one-third the cost of a rigid structure of comparable size.

The four sections of the airhouse are bolted together with plastic bolts, nuts and washers. The plastic dome is joined to the foundation by a continuous unistrut anchored in concrete. A continuous hem holding wooden dowels slips into the unistrut channel, and wooden strip wedges form a pressure seal as the dome is inflated.

After the tests have been completed, the transmission line, with suitable modification, will be incorporated into BPA's 500,000 volt alternating current transmission grid. The direct current test

equipment will be added to BPA's high voltage laboratory and testing facilities.

—Bonneville Power Administration

—Noted in the release is reference to a number of countries abroad now doing high voltage research, but the U.S.S.R. is not included. For the record, it is pointed out that the U.S.S.R. leads the world in the practical application of direct current transmission of high voltage. This Russian leadership, and that of other countries, is particularly ironic in view of the fact that specifications for direct current transmission at one million volts have been available to the U.S. through Technocracy for several decades.

●

MY TWO CENTS WORTH

I see where the government is giving stamps to some of the poor people so they can buy surplus food with them. I think it's a good idea, only they should give stamps to everybody and let them also buy other things besides food, even clothes and bus rides. The people who pay the taxes should have the same rights as the people who are too poor to pay taxes. Some folks will tell you if people are given the things they need, they will be lazy and won't work. Maybe a lot of them would, but not all of them. Anyway, I think it's a good idea. With jobs getting scarce like they are, the more people who don't work the better it is for the people who want jobs. The people who just want to live and enjoy the simple things won't be too anxious to get jobs, not steady jobs anyway. So those who want to get ahead and have swanky things will have a better chance to make more money.

If people get enough to eat so they ain't hungry and have a place to live and enough clothes to keep them warm and decent, they won't make as much trouble as when they don't have anything. Also they should be able to get a few medicines and go places on the bus. Then people won't need to be criminals and steal things and rob people to keep alive. It will make it easier for the police, and the rest of us won't need to worry so much about getting konked on the head when we go out at night.

Folks have to eat and have a place to sleep and have clothes to wear no matter what they do; so, it seems to me, the government should see to it that they get those things even if the government gives them out free. It is no worse than giving our surplus stuff to foreigners or dumping it like we've been doing. To be honest, I would like to get some government stamps myself so I wouldn't have to work so much. Other people can have my job anytime I don't need it to support myself.

—Ima Moron

IMPACT OF TECHNOLOGY ABROAD

More profoundly disturbing to the Old Order, more devastatingly to the age-old ideas of mankind than any political concept, past or present, is the march of technology around the world. Social change, induced by technology, population pressure and the simple desire of peoples for something better than they have now, is breaking down the Gates of the Old Order. Nothing, short of total annihilation, will stop social change either in North America or abroad.

CONSTRUCTION STARTS ON TAGUS RIVER BRIDGE

Construction is now in progress on the huge piers for the Tagus River Bridge at Lisbon, Portugal. The bridge, which is scheduled for completion in 1967, will establish many milestones in bridge construction. Crossing the broad tidal waters of the Tagus near its outlet into the Atlantic, it will be the longest bridge outside the U.S. and the longest bridge in the world designed for both highway and railroad traffic. It will have the highest bridge towers in Europe and the longest continuous stiffening trusses in the world. One of the main piers will be the deepest in the world.

Measuring 7,472 feet from anchorage to anchorage, the bridge will include a center suspension span of 3,323 feet and two end spans 1,586 feet each. With its northern approach viaduct, the bridge will have an overall length of two miles. The main deck will carry five lanes of vehicular traffic over the Tagus between Lisbon on the north shore and Portugal's rapidly developing southern peninsula. Provision is being made in the design for widening the main deck to provide a sixth lane of vehicular traffic and for adding a lower deck to carry a double-track railroad.

For the first time on a European project, the contractor is using the "open-caisson air-dome" method of foundation construction to build the two main piers. The challenging southern pier, the deepest in the world, will extend 275 feet below water at high tide and stand 290 feet above bedrock.

The United States Steel Export Company is prime contractor for the \$75,000,000 project, with Morrison-Knudson of Portugal as principal associate. Other major associates of the U.S. Steel Export Company are Compagnie pour l'Etude et le Developpement des Echanges; Sociedades Reunidas de Fabricacoes Metalicas; the American Bridge Division of U.S. Steel; and the design firms of Steinman, Boynton, Gronquist and London, of New York, and the Tudor Engineering Company of San Francisco. U.S. Steel will handle fabrication and erection of the bridge superstructure.

Information on the Tagus River Bridge was obtained from the April issue of the *Em-Kayan*, a Morrison-Knudson publication.

—Civil Engineering

TEST LAB FOR SWEDEN

Sweden: A \$1 million high tension test laboratory has been put into operation at the ASEA's transformer headquarters in Ludvika. It is said to be one of the largest in Europe and will be used to test 700-750 kw transmission equipment. The lab also includes an echo-free sound measuring room, also one of the largest in Europe.

—(McGraw-Hill World News) Power

MILAN 'COMPUTES' TRAFFIC

Laboratory for Electronics, Inc., (LFE) reports that Milan, Italy, is becoming the first European city to engage in a combined radar and computer attack on the problem of too many motor vehicles for too few streets.

It announced that an Italian-manufactured system has been set up in Milan to detect and analyze continuously the volume and speed of traffic on the city's main arteries and to adjust, automatically, signal lights so that each street entering an intersection will receive its most efficient share of "green time," with minimum traffic delay.

The firm reported that Compagnie Generale Automazione, SPA, an LFE subsidiary in Rome has adapted techniques developed in United States cities by LFE's Norwalk, Conn., automatic Signal Division.

The system, which uses underground magnetic detectors in some places, was started Monday on two major traffic arteries of one of Europe's oldest cities—the Corso Venezia and Corso Buenos Aires.

—Christian Science Monitor

LARGEST DAM

USSR: World's largest dam, stretching 3000 ft. across the Yenisei River in Eastern Siberia, was inaugurated recently; its completion is three years late. The total power plant capacity—in blue-print stage—has been increased to 5000 mw, and the first of its turbines is to be shipped next summer.

—Power

JAPANESE PLAN 1970 AIRPORT FOR SUPERSONIC JET

Tokyo will build a new international airport by 1970—in time for the arrival of the supersonic age.

Officials say the new airport, with four main runways and one auxiliary runway, will be one of the five biggest international airports in the world.

Equipped with an efficient radar system, the new airport in theory will be capable of handling 120 landings and take-offs an hour.

The number of landings and take-offs at Tokyo has been increased 26 percent a year for domestic flights and 11.8 percent for overseas flights since 1953, according to the aviation bureau of the Ministry of Transport here.

When the new runway is completed, the present airport at Haneda will be capable of handling 40 landings and take-offs per hour. Only 12 per hour are possible now.

Some 17 international airlines, including Japan Airlines and two domestic airlines, now use the Haneda airport.

—Christian Science Monitor

RAILWAY TIES

Lagos, Nigeria—A Swedish company, A-Concrete Ltd., will soon start production of concrete railway ties in Kaduna, Northern Nigeria. The company also plans two more factories in two other Nigerian centers. Sweden will supply all the mechanical equipment. The company has already obtained a contract from the Nigerian Railway Corporation for railway ties and is negotiating for further orders for these and other reinforced products.

—Christian Science Monitor

SUGAR

Rhodesia—Production of sugar in Southern Rhodesia is expected to reach at least 100,000 tons in 1963-64. The newly formed Rhodesian Sugar Association is attempting to find overseas buyers. One of the first foreign markets to be developed was Canada, which placed an order for 2,000 tons of raw sugar.

—Foreign Trade, Ottawa

TURKEY

Forestry—With the aid of the UN Food and Agriculture Organization a long-term forest development plan is continuing. During the past five years, more than six million poplar trees have been planted in the ten-year project to increase the poplar forest area from 12,000 to 48,000 acres.

FAO experts have been working with Turkish authorities for the past year surveying timber consumption and future requirements and preparing a forest industries development plan. In 1962, Turkey produced 82,490 short tons of paper and paperboard and imported an estimated 60,000. The opinion of the FAO experts now in Turkey is that pulp and paper production could be increased five times by using modern technology—Athens.

—Foreign Trade

NEW MATERIAL FOR 'SAND-BLASTING'

The Swedes are using a slag-based material for blasting steel and other metals, in the place of quartz sand. Not only are the granulated, sharp-edged slag grains more efficient and less dusty, they also eliminate dangerous silicosis. Quartz contains 90 percent free silicic acid, which can lead to serious lung damage; silicic acid in the slag forms a harmless iron silicate.

—Rock Products

WORLD BANK LOANS

Two loans, equal to \$15 million and \$4.2 million respectively, have been made by the International Bank for Reconstruction and Development to Singapore and Swaziland for power development. The loan to Singapore will assist in financing a 120,000 kw. thermal power station with an ultimate capacity of 240,000 kw. Work has already started and completion is expected by mid-1965. Swaziland's loan is for the construction of a 10,000 kw hydroelectric plant and a 1,000 kw. thermal plant with transmission and distribution facilities. These projects are the first power installations to be built by Swaziland Electricity Board. Completion is expected by the end of 1965.

—Power

ALUMINUM PLANT IN NORWAY HARVEY PLANS 60,000 TON

Latest U.S. primary producer to join hands with a foreign country in an aluminum operation is Harvey Aluminum, Torrance, California. The firm, and the state controlled company of Norsk Hydro S/A, have started Alnor S/A for the purpose of building and operating an aluminum plant in West Norway. Harvey owned 49 percent of Alnor, Norsk Hydro the majority interest.

Alnor presently plans to construct the aluminum plant on the island of Carmoy. Initial capacity is expected to be 60,000 metric tons; but capacity will eventually be boosted to 100,000 tons. Plant cost will be about \$70 million. It is expected to begin production in four years.

—Modern Metals

CONCRETE ARCH BRIDGE NEARS COMPLETION IN AUSTRALIA

Gladesville Bridge, nearing completion over the Parramatta River in Sydney, Australia, is said to be the world's biggest concrete arch. It has a total length of 1,900 ft. between abutments and a main span of 1,000 ft. Started in 1959, the bridge will be open to traffic early next year. It replaces an outdated, two-lane iron bridge, built in 1881 to take traffic to Sydney's northwestern suburbs. Gladesville bridge will carry a 75 ft. wide roadway with six traffic lanes and 6 ft. wide sidewalks on each side. Designed by Australian and British engineers, with the advice of Freyssinet Company of Paris, the bridge will cost about \$5,760,000.

—Civil Engineering

INDIA'S LARGEST POWER PLANT TAKING SHAPE

When completed in 1964, the Bandel Thermal Power Station will be the largest such facility in India. The station, which is owned by the West Bengal State Electricity Board, will consist of four 88,907-kw turbine generator units. On-site construction is well under way and heavy equipment is being shipped to the site.

The Kuljian Corporation at Philadelphia is responsible for design, engineering, construction supervision, initial operation, and the conducting of acceptance tests. The Westinghouse Electric International Company is the major equipment supplier.

The Bandel Thermal Power Station received \$38,500,000 in financial assistance from the Agency for Industrial Development.

—Civil Engineering

RAILWAYS

Melbourne, Australia—By 1967 Australia should have an unbroken 3,000-mile standard-gauge railway line linking Brisbane and Perth. Standardization of the last remaining link, between Broken Hill and Port Pirie, will begin soon. The link from Sydney to Broken Hill to Port Pirie will bypass Melbourne. The cost of converting the 253-mile section between Broken Hill and Port Pirie is estimated at about \$45 million. It will be completed to coincide with the \$100 million standardization of the 392-mile Kalgoorlie-Perth line in 1967. Trains will travel from Sydney to Perth along the new railroad in about three and a half days.

—Foreign Trade, Ottawa

CONTINENTAL TRENDS IN TECHNOLOGY

DIRECT CURRENT LINES PROPOSED BY OFFICIAL

WASHINGTON—A utility company official advocated the construction, with either federal or private funds, of two direct current transmission lines between the Pacific Northwest and California.

John M. Seabrook, vice-president of International Utilities Corp., New York city, urged congressional appropriations committees to reject interior department requests for money to start building a million kilowatt alternating current line to the California-Oregon border to connect with transmission facilities proposed by the California power pool.

International Utilities has offered to build one of the two direct current lines advocated by Seabrook—A 1,200,000 kilowatt line from the Columbia river through Nevada to the Hoover dam-Los Angeles area.

Seabrook suggested the second direct current line from Bonneville to the Sacramento-San Francisco area as a substitute for the proposed alternating current connection with the California power companies.

Among his reasons:

"Direct current is more efficient and more stable than alternating current.

"By interconnecting the two regions exclusively with D-C lines, Bonneville will not be subjected to operational control by PG&E (Pacific Gas & Electric Co.) and other members of the pool.

"Only a D-C line can be a true common carrier line, resolving the public versus private power fight without contributing to a monopoly by either."

Seabrook said International Utilities proposes to build its Bonneville-Los Angeles line through Nevada at a cost of \$114,000,000 and deliver power as a common carrier, serving the federal government, all public agencies and private utilities at a wheeling charge of \$4.84 per annual kilowatt of capacity, plus the actual cost of property taxes. The company, he said, would neither buy nor sell power.

The line through Nevada, he said, could be tapped near Reno to serve northern California.

Seabrook said his company considers its proposal the best, but would be willing to support an estimated \$146,000,000 appropriation for a federally owned D-C line in the interest of introducing high voltage direct current transmission to this country and keeping abreast of similar technological advances in Europe.

—Portland Reporter

POWER CONTROLLED BY COMPUTER

One more step was taken toward the industry-planned goal of connecting all power pools from coast to coast when the Public Service Company of New Mexico unveiled the nation's first all-digital dispatch system. Power flowing from two Albuquerque steam generating plants to meet the fluctuating electric demands of key cities throughout the state is now under control by a digital computer—the first of its type to be used for this purpose. In this way, the difficult problem of economically balancing a steady stream of power against the varying demands of users is solved, 360 times each hour.

—Power

TURBOGENERATOR ORDER PLACED FOR KEYSTONE PLAN

A contract to supply turbogenerators for the giant 1,600,000-kilowatt Keystone power plant in Armstrong County, 10 miles west of Indiana, Pa., has been awarded to Westinghouse Electric Corporation.

This represents the largest turbogenerator order, from the standpoint of kilowatt rating, ever placed with Westinghouse.

Each generating unit, 150 feet long and weighing 2,600 tons, will generate electric energy at 19,000 volts.

—Christian Science Monitor

The average American consumed 4,080 pounds of coal in 1961 plus 19.58 barrels of petroleum products and 70,100 cubic feet of natural gas.

Automatic elevators have replaced 40,000 operators in New York City in the last 15 years.

A recently developed metal alloy contains a permanent dry lubricant that never freezes or evaporates.

The United States uses 41,200,000 tons of paper every year, or 457 pounds per person.

Plate glass is being made by floating it while viscous on the surface of molten tin. This assures a perfect surface without grinding.

—Everett Herald

NEW DRYING PROCESS FOR NATURAL RUBBER

A mechanical process for drying natural rubber crumb on the plantation may revolutionize the natural rubber industry. The technique used in Goodyear plantations reportedly cuts drying time from weeks to minutes. The process uses a machine to continuously dewater and dry the rubber. The rubber is extruded as dry crumbs, then carried on a cooling belt to the baling press for packing into solid, uniform blocks for shipment. The whole process takes 10 minutes. Present methods—coagulating the latex, milling, drying and packaging—take 20 to 30 days.

Besides saving time and operating costs, the new process should cut the number of rubber grades from 50 to 3 or 4, Goodyear says.

—Rubber World

MEXICO TO SPUR INDUSTRY

A large industrial center destined to form an important pillar of Mexico's economic development is to be established in the city of Queretaro, capital of the state of the same name in central Mexico.

President Lopez Mateos said the government will build an extension of the Salamanca gas pipeline to supply fuel to the manufacturing area of Queretaro. A school to train technicians also will be established.

The Social Security Institute will undertake a large housing scheme to accommodate workers of the industrial center. Power, water, and communications facilities will be stepped up.

Feeder roads also will be built from Queretaro to rural communities, bringing a new era of progress to the important agricultural and industrial area of central Mexico.

—Christian Science Monitor

GAS-TURBINE LOCOMOTIVE UNDERGOES TRIALS

The first direct-fired, coal-burning, gas-turbine electric locomotive in railroad history is running road tests on the Union Pacific Railroad. Fifty test trips with the giant pulverized coal eater have been made, and "it's done very well," says UP's president A. E. Stoddard.

As may be expected some kinks need overcoming. Turbine blades still tend to erode, due to abrasive particles as the coal powder is injected into the combustion chamber under intense pressure. And the engine smokes too much to suit Union Pacific's public relations department.

Company specialists are confident both the smoke and abrasion problems can be cured. One anti-smoke suggestion has been to borrow a page from the strategy employed by the British Admiralty at the battle of Jutland when it fueled the Grand Fleet with smokeless coal. This enabled the Royal Navy to stir out of its base without leaving a telltale smoke cloud trailing across the North Sea horizon.

Designed and built by Union Pacific, the coal-fired gas-turbine locomotive is rated at 7,000 horsepower. It consists of a 2,000 horsepower diesel-electric lead unit, a 5,000-horsepower coal-fired gas turbine unit and a tender carrying coal and its pulverizing and fire-feeding installation.

It will take about 90 tons of raw coal according to Mr. Stoddard, to fire the run all the way from Ogden to Council Bluffs. The new engine, says Mr. Stoddard, is strictly an experiment to evaluate the feasibility of using coal to power a gas turbine in locomotive service.

The Union Pacific has substantial coal deposits on its property. Its Rock Springs, Wyoming, mines were once big suppliers of railroad fuels.

The steadily rising cost of diesel oil has started railroad men to thinking about going back to burning coal on a push-button basis.

—Christian Science Monitor

SONIC WAVES AID EARTHMOVING

Sonic waves have been applied to earthmoving by Albert Bodine, who first put them to use on a pile hammer. The waves are introduced very near the scraper blade; quickly loosen the hardest soils, making removal both easier and speedier.

—Rock Products

TV AIDS ILLITERATES

GUATEMALA—About 500 TV sets are being put in schools and public squares across Guatemala to carry reading and writing lessons to illiterate viewers. Seventy-six percent of Guatemalans are illiterate.

—Seattle Times

HUGE OIL SUPPLY

TORONTO—The remote tar sands of northern Canada contain the richest deposits of crude oil in the world. Although undeveloped, they are believed capable of yielding 100 to 250 billion barrels of crude oil.

—Seattle Times

—Exploitation and waste compel going further for supply.

SONIC HAMMER DRIVES PILES FAST, TENDERLY

A sonic hammer, a new device, is being used to drive piles as a means of doing away with vibration damage to nearby buildings caused by the shock of conventional pile drivers. Attracting the attention of architects and engineers, the sonic hammer uses vibrations instead of pounding to sink the piles into the ground. A motorized oscillator is attached to the top of the pile. It sets off continuous vertical vibrations in the pile. This causes the pile to stretch rapidly then shrink along its length. As a result, the pile digs deeper into the ground.

The C. L. Guild Construction Co. of East Providence, R.I., developers of the sonic hammer, recently demonstrated how it drove a pile down 71 feet in 42 seconds. A conventional pile driver drove a similar pile only three inches in the same time.

The sonic hammer also can be used to remove a pile easily while it is vibrating, the company said. The sonic vibrations are confined to the pile and thus do not shake surrounding installations, causing damage.

—Detroit Free Press

LARGE SWITCHES

CANADA—An order has been placed with I-T-E Circuit Breaker (Canada) Ltd. for the highest voltage switches ever built—forty-four 700/735-kv, 2500-kv BIL, 3000-amp disconnecting switches for use on the first three 700-kv lines in the world. These lines will transmit nearly 5-million kw of electricity 400 miles from the generating sites, to Quebec and Montreal.

—Power

'MODEL A' MACHINES CUT FACTORY OUTPUT

NEW YORK—There are model A's on the road today that were produced in the early 1930s. They run, some well, but they don't race much against today's automobiles.

There are machine tools—those contrivances which produce the metal shapes and other items which also date back to the time of Henry Ford's Model A, and they, too, are still running.

And they are not much better suited to competition in today's worldwide industrial struggle than would be a Model A if entered for a racing crown at the Indianapolis Speedway, industrialists admit.

The degree of obsolescence of 2.8 million machine tools was reviewed by Birnham Finney, editor of the American Machinist, in the magazine's 9th inventory of metal-working equipment. Finney spoke at the spring meeting of the National Machine Tool Builders' Association at Cincinnati.

Finney said that the inventory showed 64 percent of all American metal-cutting and metal forming machinery was more than 10 years old, and thus must be considered obsolete in design and performance.

Finney found that the 64 percent rate of age which the survey showed for machine tools in the United States compared unfavorably with estimates of 59 percent in Great Britain, 58 percent in France, 55 percent in West Germany and about 50 percent in Russia.

—United Press International

DEVELOPING SOCIAL PROBLEMS

45 MILLION FISH REPORTED KILLED

WASHINGTON—About 45,000,000 fish were killed by water pollution in and near the United States in 1962.

The U.S. public health service reports the largest single kill was 37.8 million fish destroyed in the Pacific outside the entrance to San Diego harbor. This killing was blamed on "a large amount of oil, known to be toxic to fish" which was dumped in coastal waters. The report did not say who did the dumping.

Within the states, the largest kill occurred in the Anacostia river near Washington last September when 3.18 million fish were killed "by the dumping of about 40 million gallons of raw sewage during construction around the sewage system."

Of the 7 million fish deaths reported by 38 states and the District of Columbia, 3.3 million were blamed on domestic sewage, 1.1 million on industrial wastes, 700,000 on mining operations and 91,000 on agriculture poisons.

The report made no effort to evaluate the extent of sub-lethal pollution that destroys aquatic plant food or pollutants that taint fish flesh making it unacceptable for human consumption. But it said "commercial fishing has been severely curtailed or ruined" in some areas by pollutants affecting the smell or taste of fish.

—Portland Reporter

\$8.8 MILLION TO TRAIN REFUGEES

WASHINGTON—The United States commissioner of education predicts the government will spend more than \$8.8 million this year to train 39,000 Cuban refugees.

Loans to Cuban students in American colleges and instruction in English for the refugees is where most of the money will be spent, Commissioner Francis Keppel said yesterday.

—Seattle Times

NET PROFITS MOVE UP NO DENT IN JOBLESSNESS

Corporate profits, which set an all-time record of \$26.3 billion after taxes in 1962 are headed for new heights this year, according to the nation's leading business publications.

Business Week, a McGraw-Hill publication, set the tone of the reports going to business and industry across the nation in the headline on its profits story: "More zoom still ahead."

The Wall Street Journal told its readers in front page headlines that profits for the second quarter of 1963 will stay near the "record reached in late 1962." The 1962 fourth quarter profit rate, said the Journal, was a "peace-time record, having been exceeded only during the Korean War's scare-buying boom in the second quarter of 1950."

The profits stories broke at about the same time as the government was reporting a slight rise in the seasonally adjusted rate of unemployment to 5.7 percent of the labor force and a total of 4.1 million persons unemployed in April.

Labor economists pointed out that a more accurate indicator of corporate earnings—cash flow, which includes after-tax profits plus depreciation allowances—rose a spectacular 12 percent in 1962 from \$48.4 billion in 1961 to \$54.4 billion last year.

—Boilermakers-Blacksmiths Reporter

8 MILLION U.S. FAMILIES EARN MORE THAN \$10,000

Washington—The number of U.S. families having annual incomes of \$10,000 or more increased 18 percent in 1962 to a total of about eight million, the Census Bureau said Wednesday.

The bureau said the median income for U.S. families was \$6,000, a gain of about \$220 over 1961.

The median income for non-white families was \$3,300 compared to \$6,200 for white families, the report said.

The median figure is that which divides the total into two equal groups, with one group having incomes above the median and the other incomes below that figure.

By regions, the West was the highest with a median of \$6,700. It was \$6,000 in the Northeast, \$6,300 in the North Central and \$4,600 in the South.

About 29 million families, 62 percent of the total, had incomes of \$3,000 to \$10,000, an increase of about 350,000 over 1961.

About nine million families, or 20 percent, had incomes below \$3,000. There was a reduction of about 500,000 in this group.

The \$25,000 and over group represented slightly less than 1 percent of the families in 1962, a reduction from the 1.1 percent of 1961.

—The Oregonian

'MIGHT AS WELL BE DEAD' IF JOBLESS AND OVER 50

MADISON, WIS.—"If you're past 50 in this town you might as well be dead." The Capital Times reported that a tall, thin man walked into its city room, made that statement and asked to tell his story to the public. The newspaper let him tell it.

Identified as Jack M, the man said he lost his truck driver's job last fall because the firm he worked for went out of business. He said he and his family now are on relief.

Continuing, he pointed out that he had driven trucks for 33 years without an accident and has a 25-year safe-driving award from the National Safety Council to prove it. Still he can't get a job. Why? Because Jack M. is 53. "No one will even talk to you if they find out you are over 50," he said.

—Labor

CAN'T KEEP UP

CHICAGO—Dr. E. Paul Torda, Illinois Institute of Technology professor of mechanical engineering, says a conference of engineering skills is to be held on the campus.

"We're running out of competent engineers in this area not simply because they move to other parts of the country or because our universities aren't producing enough graduates, but because technology is advancing so rapidly," he said.

—Everett Herald

GROUP ACTS TO SAVE REDWOODS

The National Geographic Society has joined a major effort to preserve California's magnificent coast redwoods from the greatest enemy: man.

Many of the redwoods have withstood the ravages of time, fire, and flood since the time of Christ Jesus. Irresponsible logging now threatens the tallest trees on earth.

Dr. Melville Bell Grosvenor, president of the society, has announced a grant of \$64,000 to the National Park Service for a year-long ecological survey of the coast-redwood region, leading to a broad program of conservation.

The research will concentrate on the Bull Creek groves, some 200 miles northwest of San Francisco, and the Del Norte groves near the Oregon border. Chester C. Brown of the Park Service will conduct the program in cooperation with California authorities.

Coast redwoods, graceful trees whose cinnamon-red boles and feathery-green foliage stretch 300 feet into the sky, rank among California's noblest natural wonders.

Since the early 1930's, individuals and the State of California have given millions of dollars to buy groves of the trees for preservation. The loftiest of the cathedral-like forests rise from river flats, and face danger from above. Because of overcutting of timber on the surrounding slopes, not enough plant cover remains in place to prevent landslides and to keep once-placid streams from growing into torrents.

In the winter of 1955-56, 50 acres of redwood flats were washed away. The flash floods toppled 300 towering trees, many of which were growing 2,000 years ago. Another 200 redwoods were undercut so badly that they crashed down later or had to be cut.

Extensive protection work has been carried out by state agencies, but the washouts taught that changes anywhere in watersheds endanger the stability of forested flats. The Redwood League warns that "aggressive treatment" is needed both to heal existing watershed damage and to check further deterioration.

—National Geographic News

—It should be obvious to everyone by now that there will be more and more widespread devastation and waste of our country's natural resources as long as the Price System is allowed to remain.

VD RESURGING IN U.S.

ATLANTIC CITY, N.J.—Syphilis, the "great pox" of medieval times, is resurging in the United States, and there may be as many as 1,200,000 hidden cases a top U.S. Public Health Service's venereal disease fighter said today.

Dr. M. Brittain Moore Jr., chief of the agency's VD Research Laboratory, Atlanta, said in a report prepared for the American Medical Association convention that the malady is being reported with increasing frequency throughout the country.

During 1962, he said, there were some 124,000 reported cases—including more than 21,000 in infectious, transmissible stages, the greatest number in the latter category since 1950.

Reasons for the rise in cases, he declared, include:

Rapid growth of cities; greatly increased mobility of populations; loss of strong family ties; international tensions; inadequacy of health and sex education; "declining morals;" and incomplete detection of carriers before they spread the disease.

—Everett Herald

Cost per man of the proposed Youth Conservation Corp. is estimated at \$12,297—nearly four times what it would cost to send the same boy to Harvard.

—Credit World

RECORD JUNE HIGHWAY TOLL

The death toll on the Nation's highways during the first half of this year ran about 5 percent ahead of 1962's record rate, the National Safety Council said recently.

During the first six months of this year, 18,930 persons were killed in traffic. The toll was boosted by 3,740 deaths in June, a record number for the month. Last year 40,900 persons died in traffic accidents.

—The National Observer

—When we install Technocracy's design of the American Technate we can build better highways, adopt a uniform traffic code, put every conceivable safety device into use, and assure the mechanical perfection of our cars. Only then can we expect to reduce to a minimum the traffic loss of life which occurs on our present highways.

PESTICIDES HAZARD NOTED IN WILD GAME, SOME FISH

WASHINGTON—Secretary of Interior Stewart L. Udall questions whether it is safe to eat wild game from areas heavily treated with some pesticides.

"There is evidence of contamination in our environment by a growing number of highly stable pesticidal chemicals," Udall told a senate subcommittee on government operations.

Residues from these chemicals, he said, have been found in large numbers of birds and animal specimens, and even in fish caught far from land. Some specimens, he added, contained much larger amounts than those permitted in domestic meats for human consumption.

Udall suggested that the chemical industry seek new pesticides which would be potentially less dangerous.

"I believe through research the chemical industry can come up with new controls that would not have such long life and which would not cause such damage," he said.

Research is needed also on the long-term effects of using the chemicals, he emphasized.

He said residues of the pesticide products DDT, DDD and DDE have been discovered in a large percentage of body and liver oil samples from fish and sharks.

—Portland Reporter

BAN ON TORTILLA MACHINES ASKED

MEXICO CITY—Labor leaders have asked government to ban the introduction of any more machines which make tortillas, a basic Mexican food, because they are threatening the jobs of 150,000 women who have been making the unleavened pancakes by hand.

—Associated Press

FEWER FARMS, HIGHER PRICES

Farm population falling, farm land prices rising to new peaks! That's the picture painted by two new Department of Agriculture reports.

One says the number of persons living on farms decreased by 830,000 in 1960-61, to only 15 million, or about one of each 12 Americans.

The other report shows that the average price of farm land, as measured by the department's "index," rose 8 percentage points last year to a record 187 percent of the average price in 1947-49. Much of this rise, the report said, was caused by "continued strong demand from established farmers for additional acreage." In other words, big farmers are getting bigger, and smaller ones are leaving their land to seek a living in towns and cities.

—Labor

CORRECTION NOTICE

The Northwest Technocrat, July 1963 issue, was in error by giving credit to the Bonneville Power Administration for an article on John Day dam. This credit should have gone to the U.S. Corps of Engineers, Walla Walla District. It has also been brought to our attention by the Information Officer of the Bonneville Power Administration that private business was defeated in its attempt to gain control and financial benefit from John Day dam power producing facilities, a development we are pleased to correct and report.

●

YOUTH EDUCATION CHANCES REPORTED DIM

NEW YORK—A larger and larger number of American youths face a 'second-rate' college education.

That's the prediction of a new research study published this weekend by the National Education Association. The reason: College officials, faced with growing salary competition from business, industry and government, 'will have to concede the necessity for accepting a lower quality of teaching performance.'

The biennial study, 'Teacher supply and demand in universities, colleges, and junior colleges,' indicates that the resources of higher education are already not equal to the task that 'only they can perform.'

'If they continue to be priced out of the market—as is now the case on many campuses,' the report asserts, 'the tragic result is clear: The quality of their educational service will deteriorate at the very moment it should be further strengthened.'

The NEA bases its scarier-than-thou attitude on a mass of statistics assertedly showing that the academic preparation of new teachers is on a 10-year trend downward. High among factors contributing to the rank of a college or university is the percentage of its staff holding the doctorate degrees. Since 1953, the report notes, the percentage of new teachers with the degrees has declined with slight jumps here and there—from 31.4 percent to 25.4 percent during the current school year.

Actually, Ray C. Maul, assistant director of the NEA's research who produced the report, admits that the purely statistical data are inconclusive on the question of whether the quality of instruction is being maintained.

For one thing, the bare number of doctorate

holders among new teachers — 3,092 — was at a record high this year. The same was true of the number—2,479—as well as the percentage—20.3—of holders of master's degree plus at least one extra year of study.

At the same time, the proportion of new teachers with less than a master's degree was at the lowest point since the surveys began in 1953.

Yet, the data, Maul insists, 'would seem to point to a watering down in the preparation of the complete staff through the year-by-year induction of groups of new teachers with lower average levels of preparation.'

This problem, says Maul, will be compounded as the need for highly trained personnel will multiply in the middle of the decade as the population explosion starts hitting the campuses in earnest.

Alongside the over-all shortages of highly trained college teachers, Maul's report lists a number of specific fields about which administrators are already worried—especially those in which the competition of other occupations in the economy is greatest.

Almost half of the 1,009 institutions participating in the survey noted that the lack of acceptable candidates caused positions to go begging during at least one of the two years of the survey. The greatest concentration is in mathematics, which is the field about which administrators indicated the greatest fear of shortages in the future.

Considered as a group, the physical sciences were listed as the area of greatest immediate shortages, followed by the social sciences and engineering.

Among the social sciences, the fear of further shortages is greatest in economics. Shortages were also noted in foreign languages, and most frequently among teachers of Russian. Also in short supply are teachers of English and engineering.

—New York Herald Tribune News Service

●

130th TV STATION OPENS IN SOVIET UNION

Krasnovodsk, U.S.S.R.—The 130th television station in the Soviet Union has just been opened in Krasnovodsk, a town on the Caspian Sea, reports the August issue of Electronics World magazine.

The station's first broadcast coincided with the 25th anniversary of Soviet television.

Today, there are 8 million TV sets in the U.S.S.R., which has a population of 200 million.

—Christian Science Monitor

Back Cover

Ashtabula, Ohio Headquarters symbolizes for Technocracy

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in North America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every state in the U. S. and all provinces in Canada, and in addition there are members in Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic North American—you are welcome in Technocracy.

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THE NORTHWEST

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The Alarm Is Sounding . . .

ACROSS THIS FAIR LAND an alarm is sounding over the decisive and unarguable fact that machines are putting people out of work in wholesale lots. At Kalamazoo, Michigan, three college researchers said recently attention must be given to the problems of displaced workers to avoid building up of an anti-change attitude in the American work force. Reported by United Press International October 16, 1963, the following was stated:

'The University of Michigan faculty members said job displacement because of technological change is becoming one of the "most significant and troublesome issues in the labor-management area."'

'Their work, "the impact of technological change: The American Experience," was published today by the W. E. Upjohn Institute for Employment Research here. . .'

The researchers noted automation and similar technologies are extending rapidly beyond manufacturing activities. In a rather unusual statement, the researchers stated, 'The American society was not built for stability and its growth and strength depend on change.'

William Haber, dean of the college of literature, science and arts, said 'The problem of job displacement is not new. Automation is only the latest and most modern manifestation of technological change.' He said, 'displacement because of change has been under study for the past 30 years and the study is an attempt to distill what has been learned in past research.'

Well, while the good professors have been trying to figure out what is going on, Technocracy has been busy presenting an accurate view of the problem and an answer. Technocracy found it necessary to begin research on the effects of technological change fifteen years before it manifested itself in the 'great depression' of the dirty thirties. Presumably, the researchers in the current study at the University of Michigan began to try to find out what was going on after the problem hit the economy. It is, of course, a little late then to make studies. But the interesting thing is that these gentlemen apparently have not found an answer—or should we say, Technocracy's answer?

The researchers are correct in pointing out that

an anti-change attitude is building up in the American economy. One clear piece of evidence of this is shown in the statement by Norris Greene, chairman of local 1299, United Steelworkers, published in *Labor Today*, February-March issue, 1963, in which Mr. Greene says:

'I sincerely believe that there must be a curtailment of automation and technological changes. The unskilled worker, who is thrown out of a job, cannot compete with people coming out of the high schools and colleges. And I still maintain that by 1970 we will have at least two-thirds more people unemployed than we have now. If automation and technological changes create more jobs, it creates them in the white collar fields for people such as those coming out of our institutions of higher learning.'

'I personally don't think that anyone in the local or international unions, or management, have the answer to the unemployment situation. I believe that this must come through an act of government to curtail automation and technological changes so that these things will not come to pass and put people out of work.'

As indicated by the above statement, some officials of the labor movement are espousing reactionary views about social change. For one thing, their jobs, too, are involved. For if you don't have a membership, you have no need for officials. But more seriously, the labor movement, in its entirety, is addicted to the idea that people must work for a living, and it finds itself stuck with that position. In the face of vast technological disemployment, labor needs a new strategy. That strategy is Technocracy.

—Editorial Board •

COVER PICTURE

View of micro-wave antenna on twenty-sixth floor of Mobil Building, Dallas, Texas. Antenna receives and transmits all supervisory control information necessary for main line operations of stations between Midland and Beaumont, Texas. See Page 8 for illustrated comment on this pipe line system. —Photos Courtesy of Mobil Pipe Line Co.

JANUARY 1964

THE NORTHWEST Technocrat

ANARCHY VERSUS SOCIAL CONTROL

If mankind is to advance out of barbarism before the destructive influences within that culture destroy civilization, it must be by deliberate design and intent, at least on some major area of the globe.

A CONTINUING CONTROVERSY in social discussion revolves around the question of individual choice of behavior versus one's regulation by the society. Most of the discussion soon gets entangled in philosophical opinion and bogs down. Opinions range from the one extreme which deplores any regulation or discipline of the individual to the opposite extreme which supports unremitting regimentation of people along lines found in religious orders, military formations, and penal institutions. Such opinions are usually grounded on moralistic or philosophical considerations more than on functional requirements.

It is quite obvious that, if a person were living alone on an island or in a wilderness area, he would be at liberty to behave quite differently from what would be necessary on a busy city street or in a convention hall. In the former situation, he would be the sole judge of the propriety of his conduct, but in the latter situations he would have to modify his actions in accordance with the judgment of other persons. If two or more people are to get along together they must control and coordinate their activities to some degree. This calls for discipline, either self-discipline or imposed discipline. Hence, in any society discipline of the individual must be an integral function of the society. Unrestricted anarchy of behavior cannot be permitted.

The simplest and probably the most critical of social relationships is that involving two people in close contact with each other. Two general types of relationship, or some intermediate between the two, come into play. One may dominate the other,

or the two may operate as equal partners. The former is the typical biological pattern to be observed in animal relationships, and it results in a sort of social harmony, especially if, by nature, one is aggressive and domineering and the other submissive and subordinate. If the two are of a similar nature, however, there may be continuous conflict when coordination is attempted on this basis; there may be a constant striving for advantage and repeated tests made to establish it. This is normal animal behavior and, under it, pairs of animals usually manage to get along fairly well together, exhibiting a workable adjustment and acceptance of their situation although not necessarily full contentment with it. The same principle applies to human beings; but, under special conditions, they may rise to a level of conduct approaching mutualism and teamwork.

For two people to live together on an equal partnership basis calls for the highest degree of self-discipline and tolerance—a degree of civilization that is not normally attained by human beings under the ordinary conditioning processes of the Price System. Even in marriage relationships, wherein the maximum in rapport and cooperative living is called for, the attitude of the pair often degenerates to that of a cold war truce in the battle of the sexes. Consequently, many marriages endure because of factors other than that of a high order of mutual congeniality—such factors as economic compulsions, legal and moralistic admonitions, and the general inconvenience of effecting a separation, especially if property and children are involved.

Marriage relationships based on mutual affection, loyalty, respect, and tolerance, over the long term, appear to be in the minority. Not enough human beings have been conditioned and disciplined for living on a high level of conduct to make it the prevailing pattern.

The human animal has come from a long line of pre-human ancestors which had to struggle desperately for survival. In this struggle, animal conduct was often crude, cruel, and violent. This applied particularly to competition within the species, where rivalry was the most bitter. The emphasis was placed on attaining individual advantage whenever it could be maneuvered and maintained; but, whenever this failed, submitting to whatever degree of subordination that was required for a survival relationship.

Another significant element also enters into human nature. Among many animals, there is a gregarious tropism which draws them together in groups and makes them feel uncomfortable when

alone. Man is a gregarious animal and therefore tends to shun solitude as a matter of tropic reaction, although some are less affected by it than others.

Human nature, therefore, contains an internal conflict that must be compromised in the attitude and conduct of the individual—on the one hand, a desire to be with others and do what they are doing and, on the other hand, a desire to be important as an individual. The first desire motivates a person to be one of the crowd; the second drives him to become outstanding and admired as an individualist. These desires apparently are independent of each other and are differentially present in all persons.

Gregariousness has been a dominant trait in mankind from the beginning. It has brought people together in social groups and communities of various sizes and formations. Aside from its having served to satisfy an internal urge in human beings, it also provided a setup for group action, including offense and defense.

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The Herd Instinct

Living together as a group causes animals (and people) to follow simple, uniform patterns of behavior. This is often referred to as the herd instinct. It constitutes a leveling process at or near the common denominator of the behavior characteristics of the participating individuals. Group activity tends to be much simpler and more uniform than the activity of individuals where ingenuity can be applied with its greatest effectiveness. In the process of animal evolution, certain group patterns had survival value while other patterns were destructive of the species. Hence, through natural selection the advantageous traits became implanted as instincts in the nervous system and thereby became perpetuated as fixed characteristics.

Human beings have, for the most part, abandoned the basic instincts of their ancestors, supplanting them with variable selective behavior patterns based on intelligence and ingenuity. Human drives have advanced (or degenerated) from the fixed, precise unfolding of an instinctive response to that of a vague tendency which provides only a general orientation but no specific direction. For example, under the compulsion of instinct, a sheep may seek status in the flock by butting others with its head; but, in humans, under the vague impulse tendency to become important, one may seek it by various means—through physical prowess, through

the accumulation and display of property, through artistic accomplishments, or through providing the correct decisions in times of emergency. The general tendency is present but not the specific responses.

In human relationships, in all categories of association, from that of mated pairs and families to communal groups, thence to national populations, and ultimately to all humanity, the conflicts between gregarious conformity and status seeking individualism prevail.

Social Harmony Only A Promise

For many centuries, societies have sought (or pretended to seek) a social code that would reconcile behavior tendencies into a harmonious social pattern. However, effort along this line was usually directed to setting up a code that was highly favorable to those in positions of power and very unfavorable to those in the lower categories. Consequently, few social organizations have been really harmonious. Modern America, which is reputed to be the highest type of social advancement, is infested with more forms of internal discontent than, perhaps, any other society in history.

In the most primitive of human societies, through the period of animal-like existence up into the early ages of savagery, there was little formal regulation of individuals. The social formations were small and loosely organized. If individuals or minor groups were discontented with the prevailing conditions in the tribe, they could go forth on their own. In those days, the earth was not crowded with other human beings. The worst hazards to man were other forms of animal life, disease, starvation, and unfavorable weather. Life for the savage was seldom easy in spite of the sparse population and expansive uninhabited areas. Reliance on wild animals and plants for subsistence seldom provided abundant living. It was not until the cultivation of plants and the domestication of animals that human beings could begin to concentrate in dense populations on small areas of the globe.

The denser populations, tied to the soil for their sustenance and to the waterways for their transportation, became organized and regulated on the barbarian pattern. Ownership of property became established and, along with it, differential economic status. The majority became slaves or semi-slaves of those in positions of advantage and their lot in life became relatively miserable. In addition to the political and economic regulations, many of which

were arbitrary and repressive, the people were indoctrinated with superstition and philosophy, which helped to keep them in line. Although we on this Continent have made great advances in some lines, notably in science and technology, socially, we still live in the period of barbarism.

Under barbarism, life has always been made harsher and more hazardous than was necessary because of the waste and violence which characterize this type of culture. Much of the production of the people has been wasted in various ways: to equip military depredations on neighboring peoples; to build ostentatious monuments of little or no functional importance; to provide grandiose lives for a few at the top; to make sacrifices to moody deities; to satiate the destructive rampages of vandals and marauders. Often in history there have been deliberate decimations of populations by neighbors who feared to let them get numerous and potentially powerful. Today, the same principle is voiced in proposals for 'preventive war.' Violence within the human species has been the greatest obstruction to man's peaceful and productive sojourn on the earth.

Eliminate Barbarism By Design

If mankind is to advance out of barbarism before the destructive influences within that culture destroy civilization, it must be by deliberate design and intent, at least on some major area of the globe. The New Order must be a highly efficient form of social control, in contrast to the anarchism of primitive peoples and the semi-anarchism of barbarism. The social control must be functional in concept rather than arbitrary and authoritarian such as, for example, the regimentation of fascism.

The most advanced form of functional control for an area is Technocracy. It bypasses the cultural concepts of barbarism and proceeds with that which is essential to the operation of a continental area. Unlike fascism, Technocracy does not require violence and repression as a way of life. It is the only social control for the future that is in conformity with the circumstances and requirements of the North American Continent. The major characteristics of the Technate of North America have already been worked out and its operating specifications are ready for adoption.

Technocracy will not change basic human nature, but it will bring about significant changes in the circumstances in which human nature operates. No longer will there be a struggle for survival and sustenance, for each citizen will receive his main-

tenance as a function of citizenship. Further, there will be no incentive for crime, which is now a principal cause of violence and predation; hence, a major cause of insecurity and fear will be abolished. Political and economic rivalries will pass away with the Price System, and violence and torture will cease to be an aspect of spiritual rivalries. In the Technate, one can expect to live out his life free of the unpleasantnesses—the violence, the oppressions, and the deprivations—which, in the past, man has been so ready to inflict upon his fellow men.

The Health and Education Sequences will play significant roles in preparing and conditioning the people for tranquil social living.

The Health Sequence will maintain a complete medical and psychological record of each individual from birth until death. Hence, it will be possible to detect those who are so emotionally unstable or physiologically unbalanced as to be potential hazards to other human beings. The compulsive sadists, bullies, and jokers will have to be kept from inflicting their mischief on other people. They will be known to the Health Sequence and the Social Control long before they are ripe to commit acts of anti-social behavior.

The Education Sequence can go a long way toward conditioning people to live cooperatively, tolerantly, and amicably with others in the society. Further, it can guide the individuals into activities and interests which suit their natures rather than irritate them. For example, organized social activities may be welcomed by those with strong gregarious tendencies while they would be very boring to a 'loner.' There will be an adequate variety of activities and interests to accommodate all acceptable variations in human tendencies.

Education — The Long Range Answer

Among other aspects of the educational influence, there can be a steady indoctrination of the individual along certain lines of personal reaction which are conducive to amicable social relations, such as: Never do anything just for spite; avoid making decisions while under emotional stress; evaluate things and events objectively in relation to broad general phenomena rather than subjectively from a narrow prejudiced viewpoint. While it is too much to expect such indoctrination to be wholly successful, at least, it can go a long way toward building up a social climate regarding proper conduct.

In Technocracy, people will be much freer than they have ever been to seek out and associate with

those who are compatible, and not be forced by matters of employment, propinquity, or other circumstances to associate closely with those who annoy them. If it is possible, as it probably would be in the Technate, for either husband or wife to walk out on the other whenever aggravated misbehavior, incompatibility, or boredom makes further association undesirable, it would stimulate a higher standard of respectful conduct than when extraneous factors compel couples to remain together in spite of disharmony between them. Freedom to find congenial companionship and mates will relieve many of the tensions which, today, breed anti-social behavior.

Conditioning and regulation of the citizens in the Technate will be predicated on functional grounds, not on arbitrary considerations. The emphasis will be on social control rather than on regulation. Environmental manipulations will be used to control behavior along certain lines in place of trying to persuade the individual to behave in a certain way. For example, traffic on the roadways will be controlled by the roadways themselves, not by the drivers of the cars. The speed, the direction, and the maneuvering of the car on an arterial highway will be done by electronic controls in the road and car. The driver merely determines where he wants to go; in fact, he may program his route before he starts out then relax and enjoy the ride without having to worry about the details of driving.

Technocracy Makes Freedom Possible

In the Technate, the individual will have the fullest amount of personal freedom of action that it is possible to attain in a highly organized society. He will not have to be concerned with providing a livelihood for himself and family nor be constantly on the alert against hazards to his safety or welfare. Most of his time will be available to him to follow interests of his own choosing. The social requirements on him will be minimal and entirely functional. Among the probable requirements on the individual will be the following: receiving education and training in accordance with his capabilities for life and function in the Technate; receiving training for the defense and development of the Continent; reporting twice yearly for health examinations; devoting a fraction of his time during a specified period of his life to doing his share of the human 'work' required in the social operation of the Continent. All such requirements will be functionally important and will not intrude arbitrarily

on the private life and peace of mind of the individual.

Hence, in the Technate, the citizen will have every reason to be in harmony with the social order and at peace with his fellow citizens.

Since all functional operations would be under a centralized control and would be coordinated for the whole Area, there would be no private enterprise or group interests to conflict with the Continental interest.

Technocracy stands as the scientific answer to the frightening possibilities of human misbehavior under the Price System—on individual, group, and national levels. It offers the only social design under which people can live in freedom from want and fear. Technocracy is ready for the people of North America whenever they are ready for Technocracy. They can either make the choice voluntarily or be forced into the decision by the march of events.

—Wilton Ivie

IF WE'RE GOING TO STAY FREE, WE'LL HAVE TO GIVE UP FREEDOM

By ARTHUR HOPPE

THESE college kids who went to Cuba are raising a fuss over getting their passports revoked. And I think the problem here is they don't realize this is a free country.

You see, Mr. Kennedy says we can't go to Cuba because Cuba isn't a free country like us. And he says if we go to Cuba this will be bad for our 'security and foreign-policy objectives.' Which, of course, aim at keeping our country free. So going to Cuba, he says, isn't good for us.

Now it used to be that Red China was the only country that wasn't good for us to go to. But the State Department, as years went by, decided to add North Korea. And then North Viet-Nam. And then Albania. And now Cuba. In order to keep our country free.

And you can certainly understand this. But has our State Department, I ask, thought things through? Don't be silly.

Take, for example, South Viet-Nam. Americans

go over there and get the idea we're giving \$1.5 million a day to further a dictatorship. They come home and say so. Does this help further our foreign-policy objectives? Of course not. South Viet-Nam should certainly be added to the list.

And Latin America. Here we are trying to promote a good-neighbor policy. And here are all of us Americans going down there getting drunk, spat on or expropriated. No, sir. The only way to promote a good-neighbor policy is never to drop in on your neighbors at all. So there's another score of countries that are bad for us to go to.

As for Africa, you know how touchy things are there. And to let a lot of us fool Americans wander around these new nations shooting off our mouths . . .

'What about Europe?' you say. I agree. Not only do we American tourists add to our gold drain, but our morality's involved. Is it really good for us Americans to visit a country like England? Where cabinet members chase scantily clad girls around swimming pools?

And if the State Department is going to let us go to France, it should at least stamp our passports: 'For Adults Only.'

But the country that worries me most is East Germany. Do you realize our State Department still lets us Americans travel in East Germany? Which is such an awful dictatorship that it's even got a high wall around it? To keep its oppressed citizens from traveling where they want to? Why, this wall which keeps East Germans from traveling where they want has become the very symbol of the fact that East Germany isn't a free country! Like us.

So I say our State Department should get on its toes . . . under the slogan: 'Today Cuba, Tomorrow the World!' And we can stop all this fuss about passports. Because we Americans won't need them.

Meanwhile, I suggest these angry students just remember this is a free country. Where one of our rights has always been to travel where we please. But to keep this a free country with the right to travel where we please, we naturally have to give up certain rights. Like traveling where we please.

And it behooves all of us in these times to help Our Leaders preserve our precious freedoms. By giving them up. One by one. Or, as my friend Miss Amanda puts it: 'Anybody who says this isn't a free country should be clapped in jail!'

—From San Francisco Chronicle as reprinted in Seattle Times.

Automation in Pipe Lines

Dallas—Rapid technological progress in pipelining has increased the need for computer assistance, a meeting of the nation's pipeline experts was told recently.

Computers are being put to a growing number of uses on pipelines. Specific applications include operation scheduling and dispatching, accounting, and engineering design. The ultimate usage is the operation of an automatic, remotely-controlled pipeline system.

The wide range of computer applications to liquid pipelines was presented in a paper prepared by H. H. Ammerman of Magnolia Pipe Line Co., Dallas, and R. Ted Smith of International Business Machines Corp., Dallas. It was presented to the 14th annual Pipe Line Conference of the American Petroleum Institute's Transportation Division. About 800 pipeline specialists from throughout the nation are attending the three-day meeting.

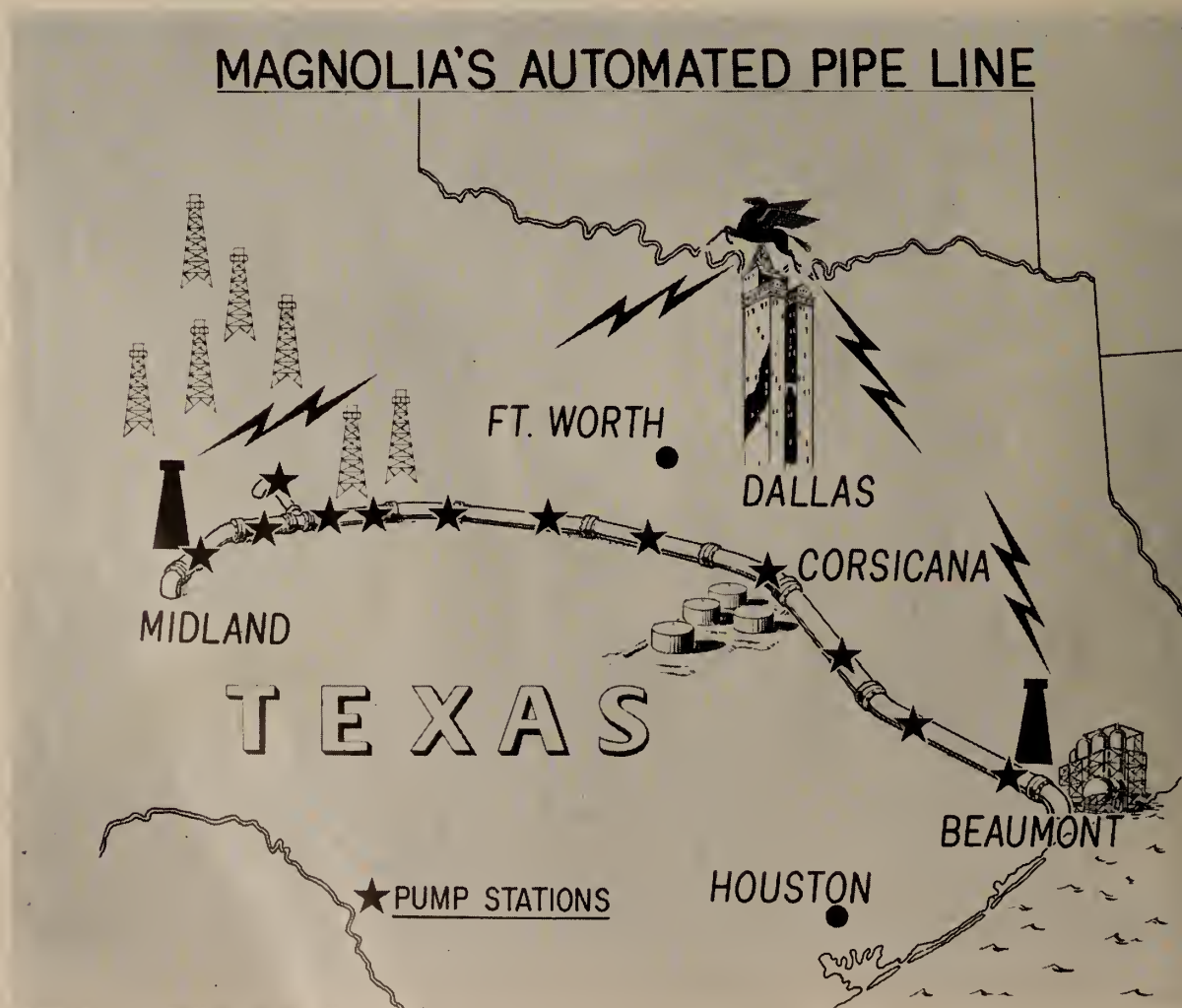
"The most significant contribution of computers will be the release of brainpower for more creative

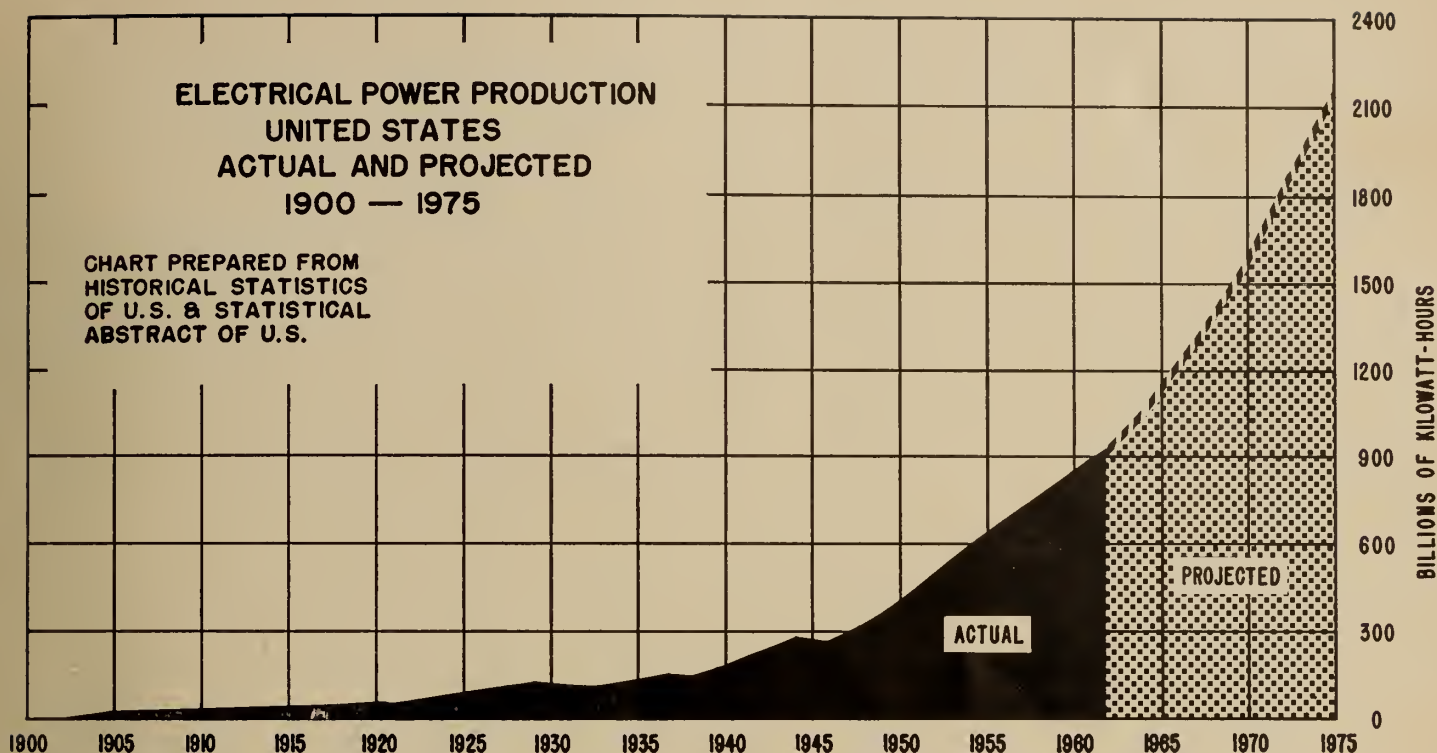
work which will lead to a more efficient pipeline operation," they noted.

"As the ultimate of automation, a fond dream of pipeliners is to automate a barrel of crude oil from wellhead to the refinery, or transport a product batch from the refinery, or a marketing terminal untouched by human hand," they said.

A paper on interface detection and identification was given by Robert W. Lee and John W. Jervis of Continental Pipe Line Co., Ponca City, Oklahoma. They said interface identification is "the weakest link in the automation of pipeline operations. Although product switches are being made remotely with present-day equipment, the industry still has need for a sufficiently reliable, accurate instrument for interface handling." They discussed four types of equipment: the capacitance analyzer, the fluid density, the sonics, and the radioactive.

—Magnolia Pipe Line Company





Power Growth In North America

THE ELECTRIC UTILITY generating industry in North America began with Thomas Alva Edison's station on Pearl Street in New York City which delivered its first energy on September 4, 1882. Six 125-hp. steam engines provided the prime mover power to the dynamos (now called generators). The Swedish technologist Gustav de Laval and the British technologist Charles Parsons invented and developed the steam turbine in the 1880's and the first large steam turbine was put to work powering an electric utility generator at Hartford, Conn. in 1900. It was rated at 2,680 hp.

By 1902 *all* the electric utility generating stations in the U.S.A. had a combined total capacity of 1,212,000 kw. In 1962 we started to build a *single* steam turbogenerator of 1,000,000 kw. capacity. It will be completed and out 'on line' in 1965 in New York City. If operated continuously at peak load 24 hours a day, this one prime mover is capable of doing the work of 80,000,000 strong workmen, larger than the entire labor force of the United States, men and women.

By the autumn of 1954 the electric utility generating stations of the U.S.A., after 72 years of growth, had attained a total rated capacity of 100,000,000 kw. In May, 1963, the total generating capacity in use had jumped to 200,000,000 kw. What took 72 years to develop, has now been doubled in less than ten years—a spectacular warning of the very rapid increase in the rate of energy requirements in technological North America, and the consequent social dislocations. These dislocations are due to the ancient and the archaic institutions of the Price System, a system which relies on the sale of man-hours for purchasing power and the hope that scarcity will prevail.

Total output of electricity generated by the utility stations of the U.S.A. in 1962 was 852 billion kw.-hours. (In addition, 91 billion kw.-hrs. were generated by industrial power stations for their own use.) The utility output is double the annual rate reached early in 1953.

As of July 1, 1963 the following new steam and hydro turbogenerator capacity is scheduled for

installation throughout the United States:

Last 6 months of 1963:.... 7,063,316 kw.

Year 1964:.....11,523,131 kw.

Year 1965:.....12,031,141 kw.

Of the units now under construction or on order, 65 will each have a capacity rating of 250,000 kw. or greater, up to a million kw.

When it is realized that 1 kw.-hour of electric energy does the work of 26 man-hours (that is, the men working with all their strength without stopping!), and at 1c per kw.-hr. compared with sweat-shop wages of \$26 for the equivalent labor, is it any wonder Technocracy knows what it is talking about when it points to the rapid undermining of the fundamental assumptions of the Price System and its inexorable breakdown on this Continent?

Add this to the modern technology, the high-speed, high-output automation using that continuous energy to convert materials into products—without man-hours—and it won't be long now!

Technocracy's answer and solution, its social design, is to apply the physical measurements and predictive functions of science and technology to the over-all decision-making and operating sequences of the whole North American Continental Area.

In a nutshell, in terms of the energy comparisons shown here, it would be to hitch our purchasing power, our production and distribution, to the growth of technological energy enabling our industrial capacity to fulfill human need for a higher standard of living. Instead, we now hold down production by continuing to tie our purchasing power to a declining and obsolete factor: man-hours; and we continue to employ the fictional legerdemain of prices-money-debt that is real only in the mythical structures concocted in the minds of debt merchants and their sycophants, the politicians.

Aggregate total *world* output of electricity in 1962 was 2.7 trillion kw.-hours. This includes both utility and industrial electric energy. Of this, the U.S.A. produced 943 billion kw.-hrs. and the U.S.S.R. produced 369 billion kw.-hrs.

In the Pacific Northwest the full operating staff of the Seattle City Light's three hydroelectric stations—Diablo, Gorge, and Ross—is only 69 men. They divide among themselves the three shifts

operating the plants that deliver energy to Seattle and nearby areas.

Diablo is run by 22 men. Rated at 122,400 kw. capacity. Built 1936.

Gorge is run by 30 men. Rated at 134,400 kw. capacity. Built 1924.

Ross is run by 17 men. Rated at 360,000 kw. capacity. Built 1952.

In other words, with nearly three times as much capacity, it takes hardly more than half as many men to operate Ross hydropower plant as the Gorge. Reason? Look at the dates of construction.. This isn't all. There are some electric utility plants in the West that run completely automatically—with not even one man! For example:

Big Cliff hydro station, Detroit, Ore. 18,000 kw. capacity.

Dexter hydro station, Lowell, Ore. 15,000 kw. capacity.

Nimbus hydro station, Folsom, Calif. 13,500 kw. capacity.

Mary Lake hydro state Estes Park, Colo. 8,100 kw. capacity.

Pole Bill hydro station, Loveland, Colo. 33,300 kw. capacity.

Well, what does the trend of power growth, and its social effects, mean in the future of this Continent?

The March of Power is fashioning a totally new way of life for the citizens of North America. It was the recognition forty-five years ago of the importance of technological change that led to the founding of Technocracy, and to the expression of this concept in an organized way by Technocracy Inc.

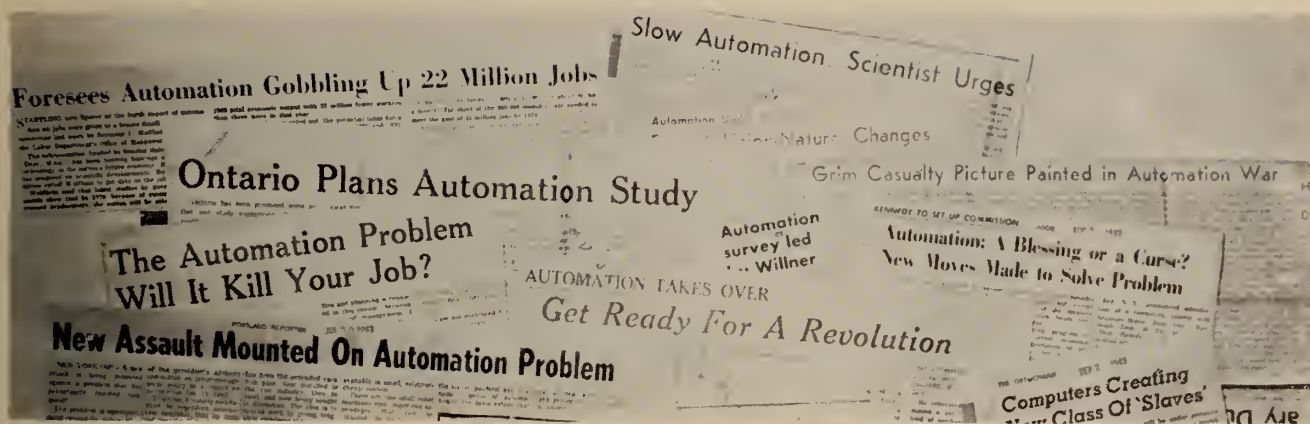
Sources of data:

—Federal Power Commission, Washington, D.C.

—Edison Electric Institute, New York City, N.Y.

—United Nations Statistical Office, N.Y.

—“Hydroelectric Plant construction Cost and Annual Production Expenses—5th Annual Supplement, 1961” Federal Power Commission, 1963. Govt. Printing Office, Wash., D.C. 60c copy.



Automation - Myth Vs. Fact

JOHAN I. SNYDER, JR., president of U. S. Industries, Inc., a leading manufacturer of automated machinery, has set Congress straight on some widely circulated myths about automation.

Testifying before the U. S. Senate Labor Committee recently, Snyder predicted that the job-reducing impact of automation will be much greater than is commonly believed.

Snyder is co-chairman with IAM President Al Hayes of the American Foundation on Automation set up by the company and the union to get the facts about automation and publicize them. Snyder declared:

"Neither our company nor the other automation machinery manufacturers possess the kind of resources that enable us to bear the full burden, to assume the full responsibility for all those people affected in one way or another by our machines."

"This simply is not the kind of responsibility that can be delegated to any one company or even group of companies. It is too large, too all-encompassing, too serious a responsibility not to be everyone's."

Snyder gave the Labor Committee these facts to explode the myths about automation.

MYTH—Automation is not going to eliminate many jobs.

FACT—"Automation is a major factor in eliminating jobs in the USA at the rate of more than 40,000 a week, as previous estimates have put it. We must also keep in mind that automation is not

only displacing people directly, but also indirectly through what are called 'silent firings' in reference to workers who would have been fired for jobs eliminated by automation."

MYTH—Automation will create jobs for workers not only in running the machines, but in maintaining and building them.

FACT—"The hard truth here is that modern automated equipment requires very little maintenance. If it did not, it would not pay to operate it; and if the equivalent number of workers replaced by automation were required to build the machines and systems, there would be no point in automating."

MYTH—Those who lose their jobs to automation can be retrained and put into other jobs requiring higher skills and paying more money.

FACT—"As studies have shown, automation is more likely to reduce rather than increase the demand for skills and aptitudes and, besides, many workers are just not retrainable, due to their levels of intelligence, education and age."

MYTH—Workers replaced by automation in one part of the country can find jobs in other areas.

FACT—"The truth is that the workers thrown out of jobs are usually just those who are least able to move. They are the lower paid, the older, the unskilled. Either they cannot afford to move from an

economic standpoint or they are psychologically incapable of beginning a new life in a strange area."

Snyder charged that these myths "are unfortunately serving as easy palliatives for those who either cannot or will not come forward and grapple with the human problems caused by automation." He termed this evidence of a "national moral weakness." The industrial executive warned:

"In the coming months and years, if we are to survive as a nation, we will need new sociological and economic ideas to solve the problems we face in this area.

"We have a moral obligation to make a substantial contribution towards solving the problems that accompany rapid technological change. If we fail, we are handing our children an invitation to disaster—for failure to perceive the dimensions and the gravity of the human problems we are facing represents a moral breakdown of the gravest dimensions."

"On the other hand, by meeting and overcoming the challenges that confront us—acting in the common good and by conquering ourselves as we have conquered the natural forces around us—we can gain the rich rewards of our scientific ingenuity for ourselves and for generations of Americans yet to come."

—from *The Machinist*, October 17, 1963.

NEW ASSAULT MOUNTED ON AUTOMATION PROBLEM

NEW YORK (AP) — A new attack is being mounted against a problem that has persistently resisted conquest.

The problem is unemployment caused by automation.

This time, with more to go on than ever before, the effort may be more successful.

The new assault will be made by a commission announced by Pres. Kennedy in connection with his discussion of the railroad dispute.

Kennedy made it clear, however, that he is not merely thinking of the switch from coal-burning locomotives to diesel-powered engines, which plant-

ed the seeds of the rail dispute by making obsolete the work of firemen.

The President said he wants the most comprehensive review ever made of this complex subject. In stressing breadth, he seemed intent upon neutralizing a difficulty of some previous studies.

Many businessmen have attacked other studies as making a bogeyman out of automation, of treating it as an unprecedented force that has wrecked jobs single-handedly.

Henry Ford II registered such a dissent as a member of the President's advisory committee on labor-management policy in a report on automation Jan. 11, 1962.

This time, Kennedy emphasized he considers automation desirable, that he does not consider it frighteningly new, that it is merely one factor of unemployment.

These disclaimers are in keeping with the new climate in which automation is being discussed. While some still speak of millions being displaced by machines, many others have drawn encouragement from recent developments.

Chief among them are the Kaiser Steel Co. long-range plan to share the savings resulting from cost-cutting procedures at its plant in Fontana, Calif., and a maritime union agreement with Pacific shippers.

Both these plans are financed by savings resulting from automation. Employers are encouraged to automate, both to ease the strain on human backs and to enrich the funds from which workers draw benefits.

Kaiser also has a provision for retaining employees who are displaced by machines. But with the rising demand for steel this spring, the system hasn't been used very much.

Another new development has been the extended vacation plan, first installed in the can industry, then in steel, and now being sought in aluminum. The idea is to spread work by giving long-term employees three-months vacations every five years or so.

A third recent development has been the .700 batting average by new federal retraining programs in getting graduates back to work.

These developments are just beginnings, however. The maritime program is the only one that has been in full operation more than a year. There also is disagreement over their cost and effectiveness.

Automation is spreading more and more. Few workers can feel forever secure.

The practice of using punched tape to run ma-

chines has been refined to such a degree that all kinds of shop and office machines can be adapted to it.

Similarly, computers are no longer restricted to the monolithic, bulb-flashing giants of cartoons; they are available in small, relatively cheap models.

There are also small robot machines with finger-like appendages that can be 'trained' to do assembling, sorting and other tasks requiring dexterity.

Because of these trends, workers are uneasy. Union negotiators are being pressed to give priority to job security in new contracts.

This was a major issue in the 1958 steel strike that lasted 116 days and in the costly dock and newspaper strikes last winter.

These conflicts point up the urgency and breadth of the problem.

There are questions of how to provide a basic education rich enough to meet changing job demands, how to help workers tied to a locality to move where prospects are better, how to apportion among employers, unions, and government the responsibility for aiding displaced workers.

Kennedy recognized the size of the task in saying the commission 'must pioneer in the social, political and economical aspects of automation to the same extent that our science and industry have pioneered in its physical aspect.'

—Portland Reporter

—A great many individuals have finally begun to realize machines do not make jobs. The above article suggests the Kaiser Steel Co. has found an answer. But the real fact of the matter is that Kaiser is reducing its total manpower in relation to its output per man. The answer is not in a retraining program either, as John I. Snyder, Jr., president of U.S. Industries, Inc., points out. As the Northwest Technocrat has observed, not every individual can become a scientist, an engineer, anymore than every person can learn to play a piano well enough to make a living at it. The problem is learning to live with abundance, largely without working.

HAYES ASKS ACTION TO MEET THE IMPACT OF AUTOMATION

A grim picture of the impact of automation was given at hearings before a House Labor subcommittee by President A. J. Hayes of the International Association of Machinists as he testified for

proposed amendments to the Manpower Development and Retraining Act.

John Snyder, president of U.S. Industries, Inc., which manufactures automated equipment, appeared with Hayes, and the IAM chief told how Snyder 'is deeply concerned about the problem of automation.'

'He has therefore established, in cooperation with the IAM, the Foundation on Automation and Employment, which is engaged in a many-sided effort to find solutions to the problems automation and technological advance are creating,' Hayes told the committee.

To illustrate that 'technology is progressing so rapidly as to seem almost indigestible,' he gave the following examples, among others:

At the end of World War II, about 1.8 million Americans earned their living in railroading. Today the railroads—hauling far more freight—employ only some 700,000 workers.

'In 1947, the automobile industry needed 649,000 production workers to turn out 4.8 million vehicles. By 1960 it was turning out 7.9 million with only 612,000 workers.

'In 1950, the steel industry needed 540,000 men to produce 96.8 million tons of steel. In 1960 it produced 99.3 million tons with 78,000 fewer workers.

'On the whole,' Hayes pointed out, 'changing technology is displacing 1.8 million American workers each year. And, since the labor force is growing by 1.3 million more workers each year, there has been a steady rise in unemployment.

'What these figures show is that, today, no American worker can prepare for a job with the assurance—or even the expectation—that he will work at that job for any period of time,' Hayes said.

'The point is that it is imperative that the work force be given every opportunity to adapt to the industrial innovations that are revolutionizing the social, economic, political and personal guideposts of our society.'

For that purpose an extended and strengthened Manpower Development and Retraining Act is needed, Hayes testified. He urged passage of legislation along that line, so as to train the victims of automation for new jobs.

—Labor

TECHNOCRACY IN THE FIELD

The Members of Technocracy apply their efforts in various ways to bring to the attention of all North Americans the significance of the present social trends and the need for a technological solution to the problems which arise out of them. They realize that only through their activities and efforts is the public made aware of Technocracy's Program.



Pressman R. Kelley and page composer P. Thomas coordinate their skills in printing The Northwest Technocrat. Crews such as these function around the clock until the magazine is printed.
—Techphotos by J. Berge

Publishing a Technocracy Magazine

Preparing the material for a magazine and publishing it is an interesting, detailed and challenging function for Members of Technocracy. Technocracy, which, by its nature, requires a strict adherence to fact, directs special attention to its Official Publications.

Each statement in the magazine must be veri-

fiable by anyone who might wish to confirm it to his own satisfaction. Therefore, the magazine material is checked and rechecked in every stage of preparation, from the time copy first reaches the editor's desk until it is finally "locked-up" in a printing frame and put on the press in a production run.

The many hours that are spent in research for material, and in manuscript preparation, are rewarded with an educational and accurate piece of literature that is designed to inform the people of this Continent of the social change into which they are moving.

An interesting thing about the Staff of the Northwest Technocrat Magazine is that all Members were trained on the job to perform every function necessary to the production of the Magazine. This includes everything from research and writing to operation of the printing press, and the binding. The only functions not performed by Members are photoengraving and typesetting, both of which require excessively expensive equipment and highly specialized training.

The Northwest Technocrat pattern of publication applies here because the personnel and facilities are available to do the job.

As this issue goes to press, Members will function in crews to maintain a continuous operation until the printing production has been completed. Another crew will then take over to do the binding and the mailing. All hands will have had an enjoyable time doing the job without pay, and with the great satisfaction of knowing they contributed significantly toward a successful transition to the technologically operated social system designed by Technocracy. This is enough compensation for the Technocrats.



Editor H. Briggs (left) and Associate Editor R. Berge examine and discuss material for The Northwest Technocrat, first stage of Magazine composition.



J. Berge is shown as he does the preliminary page-proofing of a press run against the 'dummy' of the Magazine.



P. Thomas sets a 'chase' of type that will soon be in the press. This is one of the many detailed and exacting tasks of publishing the Magazine.



F. Botts, long time pressman for The Northwest Technocrat, inks the press in preparation for a press 'run.'

CONTINENTAL TRENDS IN TECHNOLOGY

ROTARY AUTO ENGINE ON MARKET THIS YEAR

The new low cost rotary engine being developed by NSU, a leading West German auto firm, will be in production this year, according to the *Montreal Gazette*.

The newspaper recently published this report:

The new NSU car engine, to be mounted under the back seat, is the size of a kitchen saucepan. It uses less than half the fuel required by conventional cars.

It does away with pistons, cam shafts, valves and other parts of a conventional car engine.

In fact the engine has only two moving parts—a triangular rotor and a power takeoff shaft.

The engine's rotor turns inside a circular casing. Three combustion chambers are formed by the angles of the triangular rotor touching the engine casing. Each combustion chamber draws in air and fuel in one operation, compresses it in another and explodes it in a third operation. There is only one spark plug. The engine runs on gasoline, kerosene or fuel oil.

—The Machinist

THE UNITED STATES NAVY CAN STOP A HURRICANE!

OAKLAND, Calif.—Navy scientists claimed recently that a jet plane's bombing of Hurricane Beulah recently with silver iodide proved that killer hurricanes can be destroyed at sea.

The Oakland Tribune reported in a copyrighted story that elated scientists are hailing the test on the 100-mile-an-hour Atlantic storm last Friday as a resounding success.

The day after the assault on Hurricane Beulah's strongest cloud wall with a new silver iodide bombing technique the storm was transformed into a weakened lady with 40 mile an hour winds, the Tribune reported.

The technique was developed at the China Lake naval ordnance test station in Southern California.

Dr. Pierre St. Amand, one of the project officers, said only one silver iodide seeding pass was made with only one plane through one cloud wall.

He said a greater seeding effort could cause an entire storm structure to disintegrate into a tranquil rainstorm.

The Navy A3D Sky Warrior jet hit Beulah's cloud wall last Friday with a load of 700 small silver iodide bombs, firing one about every 500 yards.

The part of the cloud wall directly attacked in the plane's bombing run literally collapsed in a shower of rain.

The rest of the cloud wall shrank from an altitude of 50,000 feet to 20,000 feet.—Associated Press.

BLOWN ALUMINUM

CHICAGO—Aluminum can now be blown into can-shape the way glass is blown into bottles. A one-step production machine cost \$50,000 to \$100,000, compared with \$1.5 million for conventional can line.

—Everett Washington Herald

NEW AUTOMATED SHIP WILL ELIMINATE CREWS

The Matson Navigation Company has made plans for the construction of a semi-automated container ship. The projected 300 ft. vessel would be of twenty-nine hundred gross tons, 1600 horsepower and operate at eleven knots. The vessel is planned to transport cargo containers between Honolulu and other ports in the Hawaiian Islands group.

The unique feature of the vessel is that all machinery and equipment, except the gantry crane will be operated either automatically or by remote control. Special mooring devices and cock fittings in conjunction with a separate bow propulsion system permit the vessel to approach and be secured by one man on the bridge without aid of tugs or line handlers.

The ship would carry a six man crew with possibility of further reduction in crew size if reliability of automated equipment could be proven to the Coast Guard after a period of actual operation. The vessel will cost in excess of two million dollars.

Stanley Powell, Matson President, said that the vessel will incorporate a number of engineering advantages which will be suitable for use on the Company's ocean-going freighters. He added that the knowledge gained should be of great value to the future of freighter automation.

The Matson President stated that before building the two million dollar plus vessel, there must be a satisfactory understanding with the appropriate unions on its manning, as presently planned and approved by the Coast Guard.

The proposed vessel's gantry crane will handle 156 dry and refrigerated containers 24 feet in length.

—Boilermakers & Blacksmiths Reporter

QUICK CURED HAMS

CHICAGO—Curing hams in barrels of brine is a picturesque process but far too slow for today's production-line food-processing techniques. Allbright-Nell, Chicago, has developed a machine that injects pickle (brine) into hams passing through on conveyor belts. It can cure up to 15,000 pounds an hour.

—Everett Washington Herald

BENEFITS OF SPACE AGE TECHNOLOGY SLOW IN ARRIVING

CHICAGO—Commercial benefits from space age technology are lagging, according to the Denver Research Institute, which has just completed a two-year study. Even when technology from a multi-billion dollar space project does eventually sift down to a commercial application, the report contends, the transfer takes too long. The National Aeronautics and Space Administration (NASA) is meeting with major contractors in an effort to spur dissemination of space-originated technology and so improve the record.

—Everett Washington Herald

MOBILE PIPE FACTORY

Two mechanical monsters of prehistoric proportions, born in Vancouver, Washington, two years ago, are being unloaded from special flatcars after making history with a revolutionary method of fabricating pipe while traveling at the rate of about three miles a day.

The two units, with a combined weight of 125 tons, actually are a mobile pipe factory for laying a continuous length of high-pressure pipe in the field. They arrived recently by rail from South Carolina where they fabricated and placed for burial 87 continuous miles of eight-inch pipe.

Clyde Vasser, of Mobile Pipe Corporation and inventor of the gargantuan machines which cost nearly a million dollars, explained their function:

Both units are self propelled on caterpillar tracks and can tackle virtually any type of terrain. The first unit, big as a switch locomotive, generates electrical power for the fully automated pipe mill coupled to the power unit. A giant coil of steel—three miles long when unwound—rides in between to create a train 100 feet long. The sheet steel is fed into the mill unit where it is rolled, formed and welded with 450,000 cycle radio frequency fully-automatic welding units. The steel at the time of welding is egg-shaped and then runs through a shaper to make a perfect cylinder. Ultra-sonic waves continuously inspect the weld-zone.

As the finished pipe—ranging in diameter from six to ten and a half inches—spews out the stern of the moving mill, it automatically is bent to conform with the terrain. The entire monster creeps across the land at about 40 feet a minute or roughly three miles a day.

Oregon Steel Mills of Portland began fabrication of the unit about three years ago. They were put together in the Industrial Park, where they returned this week for winter renovation and modification.

The initial test was given the unit on a 30-mile pipe laying job for City Service and Continental Oil in Texas and Oklahoma. It then was moved to California for a 15-mile pipeline for Pacific Gas and Electric and recently completed the 87-mile South Carolina job.

Vasser said the firm plans immediately to begin production on additional units now that the prototype has proven its capabilities 'beyond our wildest hopes.'

Which is a long way round about to report the 37th tenant and newest industry in Vancouver's Industrial Park.

—The Columbian, Portland, Oregon

COMPUTER AIDS BANKS

A new bank transit computer system capable of processing checks 50 per cent faster than currently available equipment has been announced by General Electric's computer department.

Known as the GE-200 Bank Transit System, it can automatically read, sort and list more than 140,000 checks an hour.

Z. T. Szatrowski, manager of computer sales, service and application engineering for GE in Portland, said that the system was designed exclusively to handle the mounting volume of MICR-encoded checks clearing through commercial and federal reserve banks.

Development of the new transit system by General Electric has come seven years after its first pioneering effort in bank automation in 1956.

—Portland Reporter

AUTOMATION

MARBLE HILL, Ga.—Automation has invaded the moonshine whisky business.

State and federal agents seized a huge, push-button operated still in a raid near this north Georgia community recently. They said the still operators only had to prime it and then run it by electric controls from a house several hundred feet away. That distance was just enough to allow the bootleggers to escape.

—Everett Washington Herald

MECHANICAL BERRY PICKER

CANBY, ORE.—For years Mickey Weygandt of Canby would go to Portland's Burnside district looking for black-cap pickers.

About nine years ago, he saw one of his pickers holding a bucket under a bush and shaking the ripe berries from the vine into the bucket.

'He was picking about two or three times as much as the others,' Weygandt recalls.

That was the beginning of Weygandt's 'Iron Wino,' a berry picking machine that replaces 100 to 150 men.

'We'll get criticized some for putting men out of work,' Weygandt admits, 'but we never could afford to pay the pickers a living wage.'

'We were in the stone age for years in the berry fields,' he added.

The machine drew its name from the knowledge that a good percentage of Skidrow blackcap pickers had trouble handling their alcohol.

The 'wino' is a six-ton rig that is driven over the rows. A shaker at the bottom agitates the bushes and the berries fall into a hopper.

The pick is then transported to the top of the machine via a conveyor belt where workers sort out the bad berries. The conveyor drops the fruit into 50 gallon barrels which fill up in about 10 minutes when the berries are good.

'We can do an acre an hour, which figures the average speed at one mile per hour,' Weygandt said.

Each barrel brings about \$120 from the canneries and Weygandt estimates that a grower with enough acreage can recover the \$12,000 cost of the rig in about two years.

He has built eight of the machines and lets them out on a royalty basis. He has built four this year and patent is pending.

Frame and wheels are the same as on lift truck lumber carriers and the remainder is a combination of parts collected and experimented with over the years.

An added advantage is that the growers can plant their bushes within three feet of each other. Previously, five foot spacing was required to allow the pickers to move completely around a bush.

Weygandt feels that waste is about the same as with the hand pickers since the men would seldom bother with berries on the inside portion of the bushes.

Usually three or four people operate the 'wino', a far cry from the hundreds that used to descend on the fields.

—Portland Reporter

A power of 10 billion watts per square inch can be focused on an area less than five ten-thousandths of an inch by a new electron beam cutter welder.

DEVELOPING SOCIAL PROBLEMS

PESTICIDES

MIAMI—Pesticide residues are in nearly every type of warm-blooded animal in the United States, and man is accumulating traces of the chemicals, Secretary of the Interior Udall said recently. He called these facts 'unnerving.'

Udall said:

'Measurable amounts of widely used chemicals have been found in North Pacific bottom fish and surface feeders far distant on the open ocean.

'Man himself is slowly building up in his body small, but relentlessly cumulative, traces of chemicals that were manufactured and used to improve the life we live and the food we eat.'

He said 70 of the more common basic pesticide compounds are under study, but pointed out that there are 500 basic compounds on the market and 30 new ones introduced each year.

'All we can hope to do is keep up with those most extensively used,' he said.

Udall said research showed that incredibly small quantities of some chemicals can destroy shrimp grounds or reduce the reproductive capacity of oysters. Uncounted thousands of birds and other wildlife have suffered or died from the use of chemical pesticides, he added.

—Associated Press

OUTPUT OF FOOD SEEN OUTPACING POPULATION RISE

A food expert challenges the supposition that the world is overpopulated.

Karl Brandt, director of the Stanford University Food Research Institute, told a forum here recently, that the world in fact is underpopulated.

He said the United States could double its population and enjoy an even higher standard of living than it has now. World food production has outpaced population gains in recent years, he said.

"All countries that make the effort can produce all the food they need if they use the overabundant supplies of insecticides and pesticides, of fertilizers, and of cheap motor fuels for pumping irrigation water," Mr. Brandt said.

—Associated Press

—The fact that misinformation like this can go unchallenged in the mass media is a prime 'Social Problem.'

RUSSIA vs. U.S.

Soviet Russia's over-all economic standard of living is just about what ours was in 1920. The one disturbing comparison, however, is the alarming difference between the Soviet education of scientists and ours. The Russians are turning out twice as many engineers and scientists as we are. They hand-pick their most brilliant students, see to it that they get a complete education. Since a nation's economy in this day and age is primarily dependent upon its technological excellence, the nation with the best scientists and engineers will come up with the most productive economy.

—The Oregonian

DEBT MOUNTS

NEW YORK—Outstanding debt of state and local governments crossed the \$80 billion mark in 1962, more than half again as great as it was five years earlier, reports the Institute of Life Insurance. Leading factors in the debt growth were school expansion, highways, municipal owned utilities and sanitation facilities.

—Untied Press International

REPRESENTATIVE BOW BLUSHES FOR UNCLE SUCKER

WASHINGTON—Rep. Frank T. Bow of Canton is chairman of a Republican task force seeking ways to cut the budget. He also runs into a lot of stories dealing with excessive expenditures.

He is now telling one about 47 radar predictors that have been shuttled back and forth across the ocean at this government's expense.

'I have asked several people to explain to me the purpose of a radar predictor, but nobody seems to know what it is,' he said yesterday. 'All we know is that they cost about \$45,000 each when produced in Great Britain for our Defense Department.

'The Defense Department bought 47 of them in line with the new policy which seems to require that we go to Canada or England to buy anything not available in the vicinity of Fort Worth.

'The total price was \$2,145,739.60 plus shipping charges.

'After we had them here, the department decided it did not need them after all. They were declared surplus and sold to the British producer for \$114,500. They had never been uncrated.

'The British producer then sold them to the government of Portugal for \$493,500, and Portugal paid for them with U.S. foreign aid funds.

'Now Portugal has 47 radar predictors, the British manufacturer has \$2,524,739.60 and you and I are the same amount poorer because someone in the Pentagon could not predict our predictor requirements.'

—Cleveland Plain Dealer

RADIOACTIVE REPORT EYED

WASHINGTON—Experts of the Public Health Service's radiological health division declined to comment Wednesday on the view of an Alberta, Canada, doctor that radioactive rain might be the cause of a two-fold increase—between 1959 and 1961—in physical abnormalities he said were found among children born in Alberta Province.

Dr. L. J. Le Vann made the suggestion in an article in the current edition of the Canadian Medical Association Journal.

The American officials said there were not enough data in newspaper accounts of the doctor's article to enable them to make any appraisal of the validity of his rainfall concept or the correctness of his figures.

However, they did reiterate the recent statement of the Federal Radiation Council indicating that the number of gross physical and mental defects resulting from all nuclear tests through 1962 among all future descendants of persons now living in the United States would be very small according to presently available data and estimates.

—The Oregonian

AUTOMATION

By 1970 automation will eliminate 22,000,000 jobs. So reports the U.S. Department of Labor. 'Not all of these people will be unemployed, but workers with little education and skill will be affected because they do the simplest jobs and robots are taking these over.' Predicts sociologist Dr. Donald Williams: 'Because of automation the lower classes will work fewer and fewer hours, while the pressures on an executive will force him to work harder and harder.'

—The Oregonian

SAYS FOREIGN AID CUT WOULD HIT 60,000 JOBS

If cuts in funds voted for foreign aid by the House are permitted to stand, 60,000 jobs will be affected, according to David Bell, director of the Agency for International Development.

Bell said 80 per cent of all foreign aid is spent in the U.S. for goods and services and the House cuts would strike hard at the American economy, and at jobs.

—Everett Washington Herald

3.3 MILLION DO 'MOONLIGHTING'

Some 3.3 million workers, 4.9 per cent of the labor force, do 'moonlighting'—that is hold more than one job, the Labor Department reported recently. That's a sharp increase over the three million 'moonlighters' reported in a December 1960 survey.

The Department said these multiple jobholders have a median work week of 53 hours, 12 of which are spent on the second job.

The number of 'moonlighters' nearly equals the latest jobless total, 3.9 million, but the Department said most second jobs 'are not suitable' for the unemployed and more than 40 per cent of the dual jobholders are self-employed on one of their 'side' jobs.

—Labor

JOBS PRUNED BY U.S. STEEL

NEW YORK (AP)—U.S. Steel Corp. in the last year has pruned more than 6,400 persons from its payroll in a cost reduction drive.

As part of the drive, Roger M. Blough, board chairman, other top echelon executives and directors took 5 per cent pay cuts.

'Big Steel's' second quarter report listed the average number of employees at 198,129 compared with 204,537 in the like 1962 period when production was substantially lower.

Blough told newsmen most of the jobs eliminated were in the white collar class.

In 1953 when U.S. Steel production levels were about 40 per cent higher than those of the last few years, the corporation employment rolls averaged 301,560.

—The Oregonian

DELINQUENCY HAS SHARP JUMP HERE JUVENILE DELINQUENT COUNT INCREASES

A serious increase in the number of delinquent children handled by the Youth Guidance Division was noted during August, according to division head, Capt. B. B. Shelledy.

Shelledy said the division handled 160 delinquent boys and girls, the highest number ever handled in one month.

He also noted the trend is generally upward over the level at this time last year. During the first six months of 1963 the division handled 100 more delinquent children than during the same period last year.

Shelledy said the August figure was most disturbing. It is too early to tell if September activity will continue at the same rate, but during the first few days of the month the division apprehended eight boys, all under 15 years of age, in connection with five burglaries.

The age factor is becoming a matter of increasing concern to Youth Guidance Division officers.

Shelledy noted that of the 41 larcenies committed by juveniles during August, 36 were committed by boys and girls under the age of 15. Much of it involved shoplifting. Of 17 burglaries, 16 were committed by children under 15.

He noted that liquor law violations among juveniles had decreased but that vandalism had shown an increase.

Lack of parental supervision, he feels, is a prime factor in delinquency among children 15 and under.

'The children involved in these offenses are far too young to be running around at night,' he said. 'Strict curfews should be set for these children and it is up to the parents to see that they are lived up to.'

—Everett Washington Herald

WHY MARRIED WOMEN WORK

The two major reasons why 42% of all wives with children between the ages of 16 and 18 are working or seeking jobs are these: (1) The high cost of raising children, which makes at least two paychecks in one family a necessity; (2) boredom with housework.

—The Oregonian

CRIME RATE SOARS HIGH

WASHINGTON (AP)—The national crime rate is increasing four times as fast as the population, the FBI reports.

Last year it climbed to a new high. For the first time more than 2,000,000 serious offenses were recorded—almost four a minute.

The statistics were contained in FBI Director J. Edgar Hoover's report to Atty. Gen. Robert F. Kennedy.

Last year's (In 1962) crime rate topped 1961's by 6 per cent. Every crime category but murder increased. Murder dropped 2 per cent.

The trend, the FBI said, was 13 per cent higher than the average crime rate over the three years of 1959-1961.

Statistically, among every 100,000 Americans, there were 4.5 murders, 8.8 rapes, 51.3 robberies, 75.1 assaults and 480.4 burglaries.

Said Hoover: 'Of vital consideration is the fact that a community's crime rate is primarily the product of its inhabitants—the victims as well as the perpetrators of crime . . . Positive action to reduce crime must begin with the individual citizen.'

—Associated Press

Defining Our Objectives

We must define our goals clearly; this has never been done in the past. Such goals are not to be stated in terms of political aspirations, or economic power, nor in terms of liberal ethics or philosophical ideals. They must be stated in physical terms and relate directly to the circumstances of the sovereign domain.

THE COURSE of a nation may be likened in some respects to the lifespan of an individual human, passing through the stages of infancy, childhood, adolescence, early maturity, late maturity, and senescence. The differences are many, of course, but the analogy may furnish us with a guide pattern and a terminology for viewing the history of our own country to-date and prognosticating its future.

In the history of an area, the period of infancy would be the period of discovery and exploration. Everything is new and exciting; the hazards and the potentialities are still unknown. The area is approached and investigated with probing explorations. Soon some familiarity with the region and its features is achieved and preliminary maps and appraisals are made.

The childhood stage of the area would be the period of pioneering, with early settlement of the choice sites, the anarchic appropriation of the obvious and more useful resources, and adjusting the problems of survival to the facilities at hand and in accordance with the prevailing circumstances and hazards. This is a hard period of growth, and many of the joys of living are dulled by the severity of struggles, the repressions and sacrifices of gaining a foothold and a perspective. But it is a period of great promise for the future. One feels that conditions will not always be 'like this,' that opportunities will appear, toil will lessen, and prosperity will ensue.

Following the period of pioneering comes the rambunctious period of adolescence, the period of bonanza exploitation and rowdy violence. This is an anarchic period during which the area is overrun with the promoters, the organizers, the despoilers, and the bullies. It is the period when, through rough-shod tactics, it is decided who shall ride the crests and who shall be trampled under, who shall found the fortunes of the future aristocracy and who shall provide them through 'blood, and sweat, and tears.' To some this is a period of historical

romance and glory; but to the many it is a period of great hardship, uncertainty, hazard, and defeat. As in the life of the individual, the glories of the adolescence of an area are more appreciated in distant retrospect than during the event.

Early maturity of an area, like that of an individual, is the period of settling down to routine activities, steady expansion, establishing status, and planning for a happy future. Although the struggle is often hard, there is still hopeful anticipation of a long life and eventual good fortune ahead. While it is a period of triumph for a few individuals, it is a period of frustration for the many. That a few families may attain mansions on Snob Hill, many others must live out dreary mildewed lives in the slums of Fog Bottom or lie forgotten on Boot Hill. As the individuals must struggle against competitors, so the area must struggle against adversaries for the status of a nation. Often the struggle is more difficult and takes longer than was anticipated; it may include involvement in wars; and success is not always assured. A few great nations emerge dominant, many smaller would-be nations become submerged or exterminated.

Late maturity is the period of staid commercialism, with the facade of respectability and the undercover practice of vice, corruption, and larceny. During this period, business, politics, crime, and the churches have achieved a *modus vivendi* and mutual compatibility. The people are neatly segregated into their respective economic districts; the 'territories' of operation are allocated, the allowable 'take' assessed, and the pay-offs established. There are discontents, of course, and there is much fussing about minor irregularities. Attention must be given to the persecution of those who refuse to accept their 'place' in the society quietly and protection must be provided for those who are properly established. Public examples are made of those who blunder in their ambitions, who welch on their pay-

offs, or who let their misdeeds become conspicuous to the Good People.

Senescence is the period of decline, when overpopulation, depleted resources, general graft, and a lack of virile social objectives leave the area dispirited and hopeless. It is no longer looked upon as worthwhile prey by the neighbors, except possibly in the sense of being quickly looted, despoiled and abandoned to a sad end. Such countries, today, are Egypt, Greece, Italy, Spain, and Portugal. Britain and Japan are on the verge.

In accordance with the analogy, the United States would appear to have progressed well into maturity—late maturity in the east and south, middle maturity in the west. Certain spots are exhibiting symptoms of senescence, beginning with New England and proceeding southward and westward. The rowdy adventurism of adolescence is gone from the social scene, appearing only as spasmodic festers in the form of juvenile gangs and organization conventions; being lived vicariously in retrospect via the TV and the movies; being viewed in fantasy through outer-space fiction with incipient materializations in the form of Sputnik launchings and Cape Canaveral blast-offs. Maturity, with peace and stability, seems to lack the gusto, the adventurism, the violence, and the predation which through the ages have excited the adolescent emotions of people. Maturity under the Price System in America appears too deadening, too unrelenting, too futile to be accepted with hope and enthusiasm. The greatest of all ages—the age of abundance, security, freedom from toil and oppression—is being approached with a psychosis of despair—a futile vicarious gamble for fame and fortune through viewing quiz shows on television—a yearning to escape into outer space.

Magic Formula Is Failing

For a time the American public was sustained in its ego with the belief that the nation had achieved supremacy by divine right and the gift of magical icons; that it had been granted through inspired revelations to its Founding Fathers the correct formulas for success, glory, and plenty; that it was invincible in war and commerce; that America would forever be The First. Now the magic is failing us; the icons have not given us the proper protection; our gods have not acted to save us in the hour of greatest need. The majority still feel that failure has been due to someone's neglect of the ritualistic fine points, such as slurring over some of the 'halleluiahs'; that closer attention to the

script may correct the errors and counter the divine retribution. They feel that our economic troubles are due to corruption; and, if only that corruption is exposed and cleaned up, we will be back on the Glory Road.

A Few People Reflect

There are a few, very few, who reflect that our lackluster decline in relative prestige in the world is due to something more than mere failure of the magic formulas. These few are not bewildered by the frantic search for spies, saboteurs, villains, and heretics, nor are they placated by the Pollyanna prophesying of Good Times ahead; nor are they comforted by the braggadocio that we can annihilate any nation or combination of nations that doesn't like us. They see beyond the hocus-pocus of words and gestures to the physical reality of resources, technology, and social patterns. They see that our decline is due to the misdirection of our social goals, to the inadequacy of our operational techniques, and to the incompetence of our leadership. They sense that our national course is beset with fundamental errors and not mere happenstance set-backs. But very few of this small minority dare come forth and boldly state their discernments.

An area, unlike the individual, is capable of rejuvenation with the advent of new discoveries, the application of new techniques, or the defining of new goals, and with the inspiration of a new leadership. A nation that has reached the stage of late maturity need not pass into senescence and obscurity. It may be capable of reviving and exceeding the period of its greatest achievement through a new strategic direction; but the basic potentialities must be there. A nation that has once achieved glory and fortune through the rapid depletion of its own resources and/or from predation on other areas may have exhausted its potentials. It must seek future greatness in another direction, perhaps as a facet of a greater hegemony. For example, Britain, Japan, and the Netherlands can never expect to recover their former status as heads of flourishing empires; and their prospects of becoming self-sustaining units are slight. Their only chance for future greatness lies in their becoming satellites or components of larger areas which do have adequate potentials.

The United States, as such, is rapidly approaching the period of decline. It is beginning to feel the 'tired blood' of depleted resources. It is develop-

ing the obesity of over-population. It is suffering from the cancer of commercialism, the leprosy of politics, and the delusion of virtue. Embolisms are beginning to appear in its flowlines. And international halitosis is causing it to lose friends around the world. America can never regain undisputed world leadership through continued emphasis on commercialism and the doctrine of sole sovereignty. It cannot recover it through military conquest nor impose it with Cold War blackmail. It cannot breed itself into it with redoubled population. And a status of supremacy cannot be lured with intrigues and good-will tours. The greatness of America is being despised abroad and besmirched at home.

But America's case is not hopeless, yet. It still has potentials. The diseases of the social body are not too far advanced to be arrested and eradicated. But it must be done here on this Continent, with what we have here. We cannot depend on maintaining a prosperous economy on resources leeches from other continents; nor can we build world peace and tranquility on the threat of 'massive retaliation.' We cannot kindle enthusiasm at home and respect around the world with stubborn adherence to outworn policies and the coddling of reactionary, tyrannical puppets situated precariously around the world. Nor have we anything to gain from clumsy attempts to duplicate the superior technological achievements of other nations. We of North America still have the capability of rising to greater heights and glory than anything we have known in the past; but it must be on a basis much different from anything we have tried up to date.

Definition of Goals

We must define our goals clearly; this has never been done in the past. Such goals are not to be stated in terms of political aspirations, or economic power, nor in terms of liberal ethics or philosophical ideals. They must be stated in physical terms and relate directly to the circumstances of the sovereign domain. Such goals have, long ago, been projected by Technocracy, and intervening events have confirmed their relevance and seriousness.

Among the goals of primary importance is the one pertaining to Area. Taking into consideration the demands of a population for space, climatic range, soil, water, resources, developed technology, and trained personnel, and with a view to virtual self-sufficiency and maximum defense, our Area must be continental in scope. It must include all of North America, Central America, the West In-

dies, and the northern tip of South America, and extend from the mid-Atlantic to the mid-Pacific. This area, designated by Technocracy as the Technate of North America, must be consolidated into one operational unit, under planned direction and with unified control. None of the present national components of this area is self-sufficient enough to operate as a self-contained unit. The national components are highly inter-dependent; and present chauvinism and political autonomy hamper rather than facilitate operational procedures as well as the fluidity of flowlines and general efficiency. Thus, a major goal for Technate Area Americans, whatever their present nationality, is the consolidation of the whole area into one social and operational unit.

The Population Problem

Another goal that we must consider seriously is that of population density and quality. The first phase of this problem should deal with quantity. How many people can the Technate Area accommodate and sustain at a high social and economic level without undue congestion, yet provide the personnel for the effective operation of the Area? A total of some 200 to 225 million could be sustained without hardship or privation for anyone; and it would provide ample personnel. The optimum number is already exceeded by some sixty million and the population is increasing at the rate of about 5.5 million per year. The first phase of any sane program of population control, therefore, must be directed toward the *reduction* of the population.

The second phase of the population problem deals with quality. This refers mainly to physical fitness, intelligence, emotional stability, adaptability, and social usefulness. Quality has little to do with race, color, national origin, or previous condition of servitude. A program of population reduction on this Continent needs to be accompanied with a program of population upgrading. On the average, the North American population is pretty scrubby as judged from any livestock standards. In this connection, we might mention that no theory of voluntary 'planned parenthood' is adequate to the need; the population programs must be under social *control*.

The statement of population goals may be frightening to the philosophical liberal, the moralistic fascist, and the equalitarian communist; but the problem cannot be evaded. Human population controls need not be as drastic in their applications

as the controls now used in restricting and up-grading livestock populations, but they must be in that direction—involving, at least, the selective non-breeding of defectives, lower sub-normals, and anti-socials. The rapid decline in the average quality of the North American population, mainly through over-breeding of the lowest quality elements and the non-breeding of the higher quality elements, calls for immediate and drastic action if we are to survive as a civilization.

Another broad field of objectives which are both essential and urgent is that of Area reconstruction. This includes the planned use of the component geographical parts of the Area, and the development of many large projects. The planned use of the Area involves the allocation of land for agricultural production, grazing, forestry, public recreation, and urbanization. The major projects would include development of the waterways for fresh-water control, transportation, power generation, irrigation, recreation, etc. They would include the rebuilding of transportation lines, equipment, and terminals; the rebuilding of urban centers and housing, including the establishment of distribution and service facilities for the population; hospitals, schools, public buildings, recreation facilities and accommodation for transients.

Reduction of Hours of Work

Another goal that needs to be defined is that concerned with employment of the population. Shall the goal be more jobs, longer hours of work, more pay, as many of our present leaders now suggest? Or shall it be minimal human employment with reduced man-hours? Since there is no discernible sense or virtue in jobs of toil, as such; since the human being is so limited in his speed, endurance, and capacity; and since power-driven machines can do much more in less time and at less social cost; therefore, it is elementary strategy to define the employment goal as being one of minimal human employment and maximal use of machines and extraneous energy.

How about the workers? The simplest way to allocate the essential employment of the Area, then, would be to divide the calculated total number of required man-hours by the available employables, thereby determining the number of man-hours each shall contribute to the social operations; and this contribution shall be made as a duty of citizenship, not on the basis of pay per hour. Man-hours of time can be measured objectively, hence there can

be no argument as to what constitutes a man-hour. On the other hand, the relative value of different kinds of employment is an undefinable philosophical question which permits of interminable disputation without conclusive determinations. It is far more simple and satisfactory to treat all man-hours as being of equal value and to ignore 'quality' of employments. Thus, it can be determined approximately the number of man-hours each person shall contribute to the operations of the Area during his or her lifetime, and these can be allocated in terms of shifts and years of employment, such as 165 four-hour shifts per year for twenty years.

A Separate Goal

The distribution of income or purchasing power must be treated as another problem and stated as a separate goal. In the Power Age, any attempt to distribute purchasing power on the basis of the amount and kinds of work performed is too irregular and unsatisfactory even to be considered in a planned strategy for an Area. We see some indication of the disorder involved in this method in the Labor-Management disputes over wages which now plague our economy. And the matter of providing for the welfare of the non-employed is an even more controversial problem. Here again, the simplest solution is an equal distribution of the available purchasing power of the area to all the individuals of the population (excepting children and other dependents, who would be provided full maintenance). This solution is particularly recommended for an Area of economic abundance, where 'premium values' would not be a factor. No other goal for North America makes sense. (Under conditions of scarcity, an equal distribution of purchasing power would also be the most generally satisfactory method, but it would be progressively more difficult to administer, because of the element of self-centered competition for that which is available.)

All in all, the social goals of an Area should be in conformity with maximal self-containment and self-sufficiency and toward minimal dependence on other areas. Such an achievement would reduce the points of conflict with other regions, and it contributes to maximum security. It avoids embarrassing dependence on other areas and evades the hazards of compulsory dealing in world markets for the essentials of life. While self-containment and self-sufficiency do not mean isolation from the rest of the world, they do furnish the Area

with freedom and independence in its foreign relations.

Foreign relations is another important field in which goals should be clear and specific. Foreign relations involve treaties for: keeping the peace; immigration and emigration; inter-area commerce; travel of persons; cooperation on research, information, and world projects.

Foreign trade in the form of Free Enterprise business dealing is a haphazard and untrustworthy means of conducting international commerce. As a matter of Area security and control, if nothing else, all foreign trade should be handled by the Area control, as regards both negotiation and transportation. A few materials needed on this Continent may be obtainable from other continents more easily than they can be produced here; hence, it would be to our advantage to trade for them. Concerning goods which we are readily able to produce in surplus, we can be generous with our help to distressed areas abroad. But on the whole there would be little real need for international commerce insofar as this Continent is concerned. It is strategically foolish for a country to develop an economy that is dependent upon the whims of other areas, such as Canada's wheat economy and Cuba's sugar economy.

Too Many People

Since the Technate Area already has many millions more people than the optimum, it behooves us to abandon all encouragement of immigration; in fact, we should prohibit immigration except for a very limited number of biologically superior individuals, admitted by specific invitation. On the other hand, emigration from this Continent could be encouraged and facilitated, particularly among those elements which are biologically inferior and those whose backgrounds, culture, and interests are incompatible with the social goals of this Continent.

We contend that the society of North America can readily be rejuvenated with the adoption of new goals which offer inspiration and advancement to the people—goals which can inspire them to get their noses out of the swill troughs of commercialism and focus their attention on grander concepts and achievements. The consolidation and reconstruction of the Area will call for the enthusiastic cooperation of all the citizens of the Continent. This project can be approached with the zeal and spirit of adventure which characterize the periods of late adolescence and early maturity. The results

shall be: the highest standard of living ever enjoyed by any population; freedom from toil and oppression; maximum security; a very high standard of health and education; and the greatest possible opportunity for self-expression.

Abolition of Interference

The greatest interference with the progress of the North American people into a new social order in which they may achieve the goals which we have outlined is the archaic Price System, which has survived from ancient times and acquired insidious characteristics. The Price System may have started out as a harmless expediency; but in its present form it stimulates individuals to avarice, larceny, and selfish acquisitiveness. These are anti-social tendencies and lead to anti-social behavior patterns, of which status-seeking is one of the worst. The Price System fosters chiseling and racketeering among social groups. It stimulates international competition for territory and commerce, and this competition often leads to war. Price System avarice, jealousies, and frustrations now threaten this Continent with a thermonuclear annihilation of its life forms.

So the first and most urgent goal for the North American people must be the abolition of the Price System. This is a social goal of the first magnitude; for, it goes against the grain of established Authority. But it is a goal whose time is ripe. The Price System has run its course. It is becoming mired down in abundance, the one thing it cannot negotiate. But there is a danger that, without adequate direction, the people may become hysterical as the Price System fails them; that they may end their civilization in the debacle of chaos. Some of our Price System leaders sense this possibility and they are worried; but, as yet, their devotion to the Price System is such that they would rather take the risk of thermonuclear war—as a diversion from social change, although it too may end in a social debacle.

The goal of abolishing the Price System must be undertaken by a sovereign power of the Continent. It cannot be accomplished by a minority group or organization. The obvious sovereign powers of this Area are the governments of the political entities, particularly those of the United States, Canada, Mexico, and Venezuela. Following a default or breakdown of the political governments, the armed forces are next in line of sovereign power. The ultimate sovereignty is, of course, the people themselves. If they would unite on an objective, nothing could stop them. But the people are not organized

for social action. The greatest organized body of the people is that made up of the labor unions. But before the labor unions could take positive action, they would have to turn away from Price System objectives and look toward Continental objectives.

To-date, the organized actions of the labor unions have been essentially negative — union members versus society. However, their negative action has achieved one positive result. Their demands for higher wages have stimulated the installation of labor-displacing technology; and that is a strong positive factor in social change. It is yet to be seen whether the labor unions, at the show-down, will act as a positive or negative factor in the attainment of our Continental goals.

Technocracy—The Only Vehicle

At the present time, Technocracy is the only vehicle of expression for those who would divert the general stampede away from the morass of a Price System debacle. Although there is much clamor among different factions and groups for change, it amounts to nothing more than competition among themselves for the dishonor of leading us to disaster; they all want to go in the same direction, and their controversies are merely over the detailed routes to be taken and who shall be in authority. Then, there are a number of small dissent groups and individuals who are seeking some modifications of the Price System procedures, but without prescribing fundamental change; most of these deal with tax or currency reform. If a dissenter speaks in terms of politics, money, or a moral order of society, you can be sure he is not advocating fundamental change, merely some 'reform' of the status quo.

Technocracy, in its specifications of the social goals which are suitable to the Area of North America, leads the field; it has no peers and no close followers. Technocracy is not a political, economic, or sectarian movement; and it does not seek to promote itself into power. Technocracy has defined the objectives for this Continent and the direction that must be taken to achieve them, all in accordance with technological principles.

When social change does come to North America, it must be put into effect by a sovereign power of the Continent. That sovereign power could be—and probably will be—a mass movement of the people. Technocracy invites all citizens of the Continent to join its Organization and help direct the mass movement in a positive direction—away from

the fetid bogs of Price System negativism and intransigence — toward the Technate of North America.

—Reprinted from January 1960,
Issue of Northwest Technocrat Magazine

DOLLAR CLAIMS OF OTHER NATIONS EXCEED UNITED STATES' GOLD, CURRENCY RESERVES

NEW YORK—Dollar claims by other nations exceed U.S. gold and currency reserves. Worse, these claims are growing despite the efforts of this nation, the world's strongest economically and financially, to get its books closer to balance. And this year a major run on its gold stocks is being averted to considerable extent by the good will and sympathy (and self interest) of its friends.

This fiscal unbalance could go deeper than just hurt pride. It could lead to a hurt dollar. If unchecked, it could end up in a blow to all the western world's structure of finance and trade.

How did the United States get into this fix?

In its simplest terms the problem now being thrashed out in government and banking circles here and abroad is this:

For several years, especially since 1957, the United States has been sending abroad more dollars than it has been getting back. The steadily mounting piles of foreign-held dollars, or credits easily turned into dollars, now add up to more than \$20 billion. By U.S. law other governments or their central banks can turn in their dollars to the U.S. Treasury for gold at \$35 an ounce. And off and on they've been doing just that.

The treasury now has only \$15.5 billion of gold (down from \$24 billion some years back). And \$12 billion of this hoard is earmarked as a reserve backing U.S. paper money.

That is Uncle Sam's gold embarrassment.

His trouble arises from a deficit between outgoing and incoming dollars, called the deficit in the balance of payments. Here is how the deficit has run since 1957: \$3.5 billion in 1958; \$3.7 billion in 1959; \$3.9 billion in 1960; \$2.4 billion in 1961; \$2.2 billion 1962.

And this year the deficit has been increasing. In the first three months we ran \$800 million behind; in the next three months \$1.3 billion short. This made the first half of 1963 about as bad as all of 1962.

But all along the United States has been exporting more goods than it has been importing. This is called the balance of trade.

What has really counted has been that balance of payments deficit—the amount each year by which all the outgoing dollars have smothered the favorable balance of trade.

As some of these accumulated surplus dollars abroad have been turned in for gold, the treasury's hoard has shrunk in this fashion: Down \$2.2 billion in 1958; \$1 billion in 1959; \$1.7 billion in 1960; \$878 million in 1961 and \$911 million in 1962. So far this year the gold loss has been \$395 million.

Disquieting as the gold drain has been, what's worrying Washington and many bankers here and abroad is the buildup of dollars and dollar claims abroad.

—Associated Press

MY TWO CENTS WORTH

I've noticed a lot of young people hanging around the streets lately with nothing to do. Some of them haven't even finished high school, but they don't seem to care. Also, they don't seem to be in any rush to find jobs even if there was something they could do. When I was young, there was plenty of work for everybody and most folks worked sixty or more hours a week. It was considered disgraceful not to work. Of course, wages wasn't anything then, so the people who had a little money could afford to have people work for them. Now, wages is so high, I guess the bosses figure it's cheaper to put in machines and fire the workers.

Another thing, you can't get people to work as hard now as they used to in my day. Everything is done so much easier by machines now that people just don't see any sense in using their muscles doing work any more than they have to. Of course, I don't blame them for that. I don't see any sense in working hard myself. There is nothing I like better than just loafing, and the best thing about it is it don't cost anything. If people want to live it up, I guess they have to think about getting good jobs. But it happens that there's more people who want to live it up than there's good jobs for them. I don't know how it's going to turn out, but I'm sure glad I'M not the one who has to worry about it. I'll be glad when I can retire and let somebody else have my job. But in the meantime I expect to go on enjoying myself as much as possible without fussing too much about how other people manage their lives.

Ima Moron

FACTORY JOBS PLUNGE AS PRODUCTIVITY RISES

Over 200,000 factory jobs are being eliminated each year by automation and other technological changes, a Senate Labor subcommittee was told last week by Leon Greenberg, productivity expert in the Bureau of Labor Statistics.

Greenberg presented results of a study made among 200 manufacturing industries for the years between 1957 and 1961. This showed that total output in these industries rose by 7.6 per cent in that period, but production per man-hour jumped 17.7 per cent.

As a result, jobs in those 200 industries fell by 1,094,000 or 8.4 per cent.

—Labor

A total of \$14 billion has been invested for new plants and equipment by the motor vehicle and parts manufacturing industry since the end of World War II.

—Everett Washington Herald

WORLD'S TALLEST STRUCTURE GOES UP IN GEORGIA

All-steel television tower, now the world's tallest structure, soars 1,749 feet over Columbus, Ga. Used jointly by WRLB-TV and WTVM in Columbus, the tower has widened the range for telecasts to serve an area of more than 25,434 square miles. It was designed and fabricated by Stainless Inc., of North Wales, Pa., manufacturer of tall broadcast towers. The majority of the steel in the tower was supplied by the Bethlehem Steel Co. The 215-ton weight of the needle-like tower is held in position by 24 steel guy strand cables, totaling 6 miles in length. Almost a third of a mile high, the structure dwarfs the Empire Building (1,572 feet), a TV tower in Missouri (1,676 feet), and a Russian TV tower (1,700 feet).

—Civil Engineering

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

Act of October 23, 1962; Section 4369, Title 39, U.S. Code

1. Date of filing: October 25, 1963
2. Title of publication: THE NORTHWEST TECHNOCRAT
3. Frequency of issue: Quarterly
4. Location of known office of publication: 6561 Phinney Avenue North, Seattle, King County, Washington 98103
5. Location of the headquarters or general offices of the publishers: 6561 Phinney Avenue North, Seattle, Washington 98103.
6. Names and addresses of Publisher, Editor, and Managing Editor:
Publisher: Section 3, R.D. 12247, Technocracy Inc. 6561 Phinney Avenue North, Seattle, Washington 98103.
Editor: Harry Briggs, 6561 Phinney Avenue North, Seattle, Washington 98103.
7. Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given.) None
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Rina Corcoran, Bus. Mgr.

TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in North America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$9.00 which are paid by the member to his local Section. Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the state of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses, or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every state in the U. S. and all provinces in Canada, and in addition there are members in Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the nearest Technocracy unit.

WHO?

Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—so long as you are a patriotic North American—you are welcome in Technocracy.

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There is one way, and one way only, of achieving an adequate social condition commensurate with the age in which you live, and that is to demand it for ALL Americans. If you demand it for yourself alone (or for your minority group), you will gain nothing but the well-deserved contempt of others. The individual can no longer think of himself as adequate, in terms of his own efforts; but only in terms of the efforts of the whole social organism of which he is a part. Technocracy is the only program on this Continent with the intent of improving the living standard and security of ALL citizens on this Continent.

. . . Technocracy offers you the only pathway out of the woods of the Price System.